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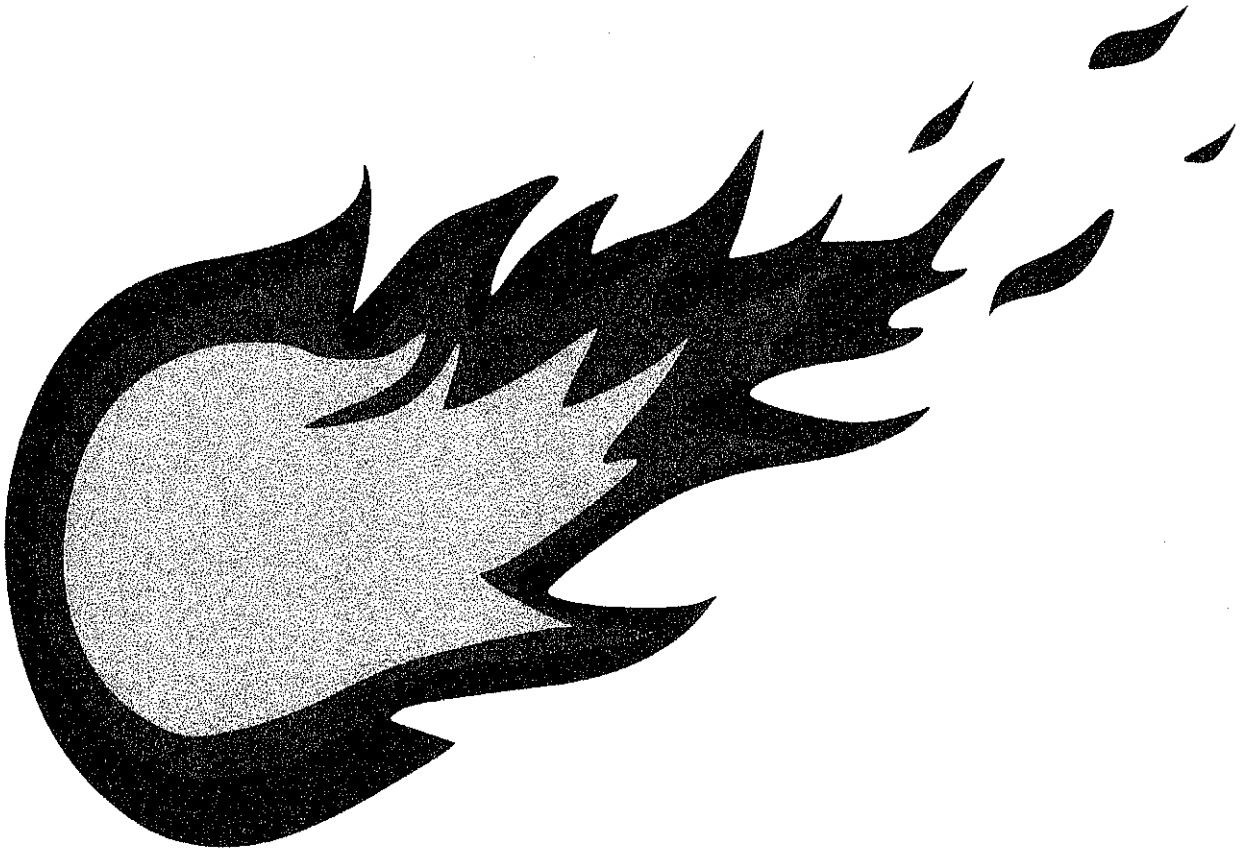
7th Grade

Packet 6

BAILEY
EDUCATION GROUP, LLC

7th Grade ELA



To Proficiency and Beyond!

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Glossary of Academic Terms

accurate – correct, precise, exact

alliteration – repetition of consonant sounds

alternate – different; another (example: Alternate Ending)

analogy – a comparison between two things; relationships between words to clarify meaning

analysis – a detailed examination of the structure or elements of a text or piece of text

analyze – to examine in detail the structure or elements of a text

anecdotes – short/engaging stories

annotate – add notes to text to clarify understanding

antonym – a word opposite in meaning to another

archetypes – a recurring character-type, theme, or idea in literature

argument – a set of reasons to persuade that something is a correct or right choice

attributes - characteristics

author's point of view – the perspective or feeling of the author about characters, ideas, details

author's purpose – the author's reason for writing/creating text or features in text

author's style – the way an author uses words in a text

central idea – the message the author is trying to convey throughout the text; the author's main point; the author's claim

characterization – the construction of literary characters; the description of characters

cite – to quote text

claim – a statement of truth which can be backed up by reasons and evidence

ineffective claims - claims that are not supported by reasons and evidence

effective claims - claims that are supported by reasons and evidence

classifications – groups or categories

climax – the highest point of action/tension in a literary/fiction text

coherent – makes sense from start to finish; logical

compare – state similarities between things/ideas

concluding statement/ section – conclusion, final section

conflict- a struggle between two ideas/forces/characters in literature

connotation – what comes to the reader's mind when a word, phrase, story is heard (connotative meaning)

context clues – hints the author gives to help with a difficult word or phrase

contrast – state differences between things/ideas

contributes - adds to, makes stronger

convey – to communicate

counterclaim – an opposing claim

definition- meaning of a word/term

describe- to give details about an event, character, or idea

descriptive words/phrases – words used to give details about a character, event, or idea

details – a particular item of information about a character, event, or idea in a text

determine – to discover

development of ideas – how the claim, central idea, or prompt answer in a piece of writing is created through evidence and support

dialogue – conversation between characters in a text

distinct – clear, specific

distinguish – to point out, to spot

domain-specific vocabulary – words specific to a certain type of writing (informational, argumentative, narrative)

drama – literary text written in the form of a play for the theater

drama elements – all of the important parts of a play, such as the actors, script, stage directions, etc.

evaluate – judge or analyze

exaggeration/hyperbole – a statement making something seem much greater/larger than it really is

explain – describe in detail, giving important facts and ideas

explanatory – type of writing that describes, gives details, and provides information

explicit – word for word, clear

exposition - explanation

fact – a statement that can be proven true, a piece of evidence

falling action – the point in a story between the climax and the resolution

figurative – not literal, metaphorical

figurative language – the use of words or phrases outside of their literal, everyday meanings

figures of speech – a word or phrase used in a non-literal way

formal style – a style of writing in which the writer refrains from personal pronouns, contractions, slang, or informal language.

generalizations – stereotypes or statements made without knowing more than just basic information; a broad statement

genre – type of writing, category of art

graphics – features in informational text which provide additional information

imagery – the use of descriptive language to paint a picture for the reader

implicit – inferred meaning

infer – to draw a conclusion based upon what is read and what is already

known

inference – a conclusion reached by using what is read (evidence) and what is known (reasons)

influence – an effect on the creation of something

informative – writing that provides information, facts, details

interpret – to explain the meaning of something

item – a MAAP question

key idea- the most important idea within a paragraph

literal – word for word, when words mean exactly what they say; explicit

literary devices – a technique the author/writer uses to

literary text – a fictional book, story, or poem

live version – a version of a story performed in the theater or on stage

logically – in a way that shows sound reasoning and makes sense

major theme – the most important lesson or moral in a piece of literature, repeated most often

manipulate – to control (an author manipulates text or literary devices)

metaphor – a comparison of unlike things which is not directly stated, it is implied

minor theme – a lesson or moral mentioned in a small part of a text, briefly mentioned

mood – how the text makes the reader feel

narrative techniques – different methods an author uses to tell a story, such as the plot, theme, setting, narrator, etc.

narrator – the character or voice who tells the events/story in a literary text.

nonliteral – figurative; inferred

objective summary – a summary of a text free from opinion or judgement.

opinion – how a writer feels about a certain topic, situation, or statement

organizational structure – how writing/text is put together

pacing – the timing of the text; how an author spreads out events or action over time

personification – when an author gives human characteristics to a nonhuman thing

play – a piece of literature written (with parts and stage directions)

plot – the series of events in the text, the action in the text

plot structure – how the plot is organized, paced, and ordered

poem – a piece of writing, written in specific form or verses, which uses figurative language to achieve its purpose

point of view – how the author, a character, or the reader sees something or feels about something within the text

quote – a specific line or group of lines from text

reasons – they writer's justification of his argument. Reasons are backed up by evidence from text.

relationships – connections between elements, ideas, or characters within a text.

relevant evidence – evidence that is directly connected to the argument, claim, or idea.

repeated lines – lines of poetry that appear more than once in a poem to create effect

resolution – how the story ends, specifically how the conflict is solved.

rhymes – repeated sounds within poetry, usually at the end of a line.

rising action – all action leading up to the climax which builds suspense or tension in a story

sensory details – details which help the reader picture text

setting – the location where the story or part of the story takes place

similes – comparisons of unlike things by using the words like, as, or than to compare

solution – the answer to problems in the text

speaker – the narrator of a poem

stanza – a group of lines in poetry which are set apart (like a paragraph in prose).

story elements – parts of a story, specifically devices or techniques used to tell the story (plot, setting, characters, structure, etc.)

structure – how a text is set up, ordered, and organized

stylistic devices – figures of speech, using words to create meaning and effect (irony, oxymoron, personification, comparison, etc.)

summary – a brief statement, set of statements which go over the main points of a story, including the theme and/or central idea.

support – evidence which helps hold up the claim

synonym – a word with the exact meaning as another word.

technical language – language specific to a certain field or area

text – a book, story, article, or other printed work

textual evidence – facts and details found in a text which support a claim or statement

theme – the lesson or moral within the story, either major or minor

tone – the attitude of the writer

topic - a subject in a text

trace – to uncover, find, or outline

transitional words – words which signal a change from one idea to another

turning point – the turning point leads the rising action into the falling action; a change in the action of a story

unfold – reveal or make clear

visualize – to picture events or ideas from text

word choice – the specific selection of words by an author to achieve an effect

MAAP Annotation Marks for Success

During the Reading/Multiple Choice Section of Your Upcoming MAAP Assessment, be sure to ANNOTATE for SUCCESS. Use the following marks to ensure focus during the reading passages!

 CIRCLE – ALL unknown words!

UNDERLINE – Any context clues to help you define those words!

[redacted] - Skim the questions and HIGHLIGHT [redacted] the words/phrases you are asked about!

 STAR- Put a star by the MAIN/CENTRAL idea of each paragraph!

Use these marks to help you answer your questions!

7th Grade Vocabulary Practice Items

1. Read the sentence from paragraph 5 of "Beam Me Up, Smell-ie!"

But the vividness of memory—its sensation of accuracy—is an illusion created by that rush of emotion.

What is the meaning of the word illusion as it is used in the sentence?

A. a specific feeling

B. a reference to something

C. something that can be seen

D. something that is misleading

2. Read the sentence from paragraph 5 in "Beam Me Up, Smell-ie!"

The architecture of the brain explains the Proust phenomenon, Herz thinks.

Why does the author use the word architecture to describe the brain in the sentence?

A. to compare the artistry of brains and buildings

B. to compare the brain and designer's purposes

C. to compare the brain's design to a building's design

D. to compare the brain's components to a building's components

Sources: Mississippi MAAP 2016-2017 Practice Test, 2016-2017 Item Sampler

3. Read line 11 from the passage.

To put a tree between us when he lighted,

(Adding line before and after: **A small bird flew before me. He was careful, To put a tree between us when he lighted**)

What is the meaning of the word **lighted** as it is used in this line?

A. burned

B. chirped

C. illuminated

D. landed

4. What does the speaker mean in lines 18–19 by saying "there was a pile of wood for which I forgot him (the bird)"?

A. The speaker overlooked the wood.

B. The speaker stumbled on the wood.

C. The speaker lost all memory of the wood.

D. The speaker became distracted by the wood.

Sources: Mississippi MAAP 2016-2017 Practice Test, 2016-2017 Item Sampler

5. The following question has two parts. First, answer Part A. Then, answer Part B.

Paragraph 1: Prescribed fires are used by land management agencies, such as the National Park Service, the USDA Forest Service and state-level park services, to maintain and restore fire-dependent environments. Low-intensity, prescribed fires are used to remove the buildup of what is called wildland fuel load, which is made up of fallen leaves and timber. If left to accumulate, this fuel load can cause devastating damage during a wildfire. While there are many advantages to using controlled burns, several criticisms can be leveled at the practice.

Part A

What is the meaning of the word **prescribed** as it is used in paragraph 1?

A. arranged

B. claimed

C. rushed

D. triggered

Part B

Which quotation from paragraph 1 supports the answer to Part A?

A. "... fires are used to remove the buildup of what is called wildland fuel load...."

B. "...this fuel load can cause devastating damage during a wildfire."

C. "... there are many advantages to using controlled burns...."

D. "... several criticisms can be leveled at the practice."

Sources: Mississippi MAAP 2016-2017 Practice Test, 2016-2017 Item Sampler

6. Read the sentence from paragraph 2.

Pollution problems can be mitigated by burning on days when wind direction blows away from populated areas.

What does the word **mitigated** mean as it is used in the sentence?

A. disturbed

B. eliminated

C. escalated

D. reduced

7. Read the sentence from paragraph 3.

Signs should be posted along roadways adjacent to the burning area to warn drivers of the risk.

What does the word **adjacent** mean as it is used in the sentence?

A. above

B. beside

C. inside

D. under

Sources: Mississippi MAAP 2016-2017 Practice Test, 2016-2017 Item Sampler

8. Read the sentence from paragraph 1.

"That old nuisance of a Rachel Lynde was here again today, pestering me for a subscription towards buying a carpet for the vestry room," said Mr. Harrison wrathfully.

What is the meaning of the word **nuisance** as it is used in the sentence above?

A. a nosy person

B. an irritating person

C. a respectful person

D. an intelligent person

9. The following question has two parts. First, answer Part A. Then, answer Part B.

Part A : Read the sentence from paragraph 12.

"I suppose she has some good qualities," conceded Mr. Harrison grudgingly.

What word means the same as grudgingly as it is used in the sentence?

A. disrespectfully

B. gratefully

C. suspiciously

D. unwillingly

Part B: Which word from the sentence helps define **grudgingly** as it is used in the sentence in Part A?

A. conceded

B. never

C. qualities

D. suspect

Sources: Mississippi MAAP 2016-2017 Practice Test, 2016-2017 Item Sampler

10. Read the sentence from paragraph 6.

They get pushed around by strong currents, but then they'll travel back to resume their trajectory.

What is the meaning of the phrase to resume their trajectory as it is used in the sentence?

A. to travel off course

B. to become lost in the ocean

C. to arrive at a specific location

D. to continue on the same path

11. Read the sentence from paragraph 18.

Different species seem to be partitioning the vertical depth structure in the ocean, each foraging on different species in a different depth range, so that they're not all at the same depth competing for the same resources.

What is the meaning of the word **partitioning** as it is used in the sentence?

A. defining

B. hiding

C. layering

D. registering

Sources: Mississippi MAAP 2016-2017 Practice Test, 2016-2017 Item Sampler

12. Read the sentence from paragraph 2.

He had spent hours eliminating everything from his room that reminded him of his failures.

Which two words have the same meaning as **eliminating**?

A. emptying

B. holding

C. opening

D. removing

E. yanking

13. Read the sentence from paragraph 10.

"When they see *Anguish Number Seven* out there projecting despair, they'll forget all about those frivolous kites and start focusing on the world around them!"

What does the word **frivolous** mean as it is used in the sentence?

A. artsy

B. gloomy

C. silly

D. forgettable

Sources: Mississippi MAAP 2016-2017 Practice Test, 2016-2017 Item Sampler

14. Read the sentence from paragraph 21.

He had not thought it possible, but his father had reached a new low point in his sad history of oblivion.

What quality is suggested by the word **oblivion**?

A. a tendency to quit or give up

B. a lack of awareness

C. a habit of repeating things

D. a way of making people feel sad

15. Read the sentence from paragraph 5.

And the metal tarnished and needed constant polishing, which could bend the mirror and spoil the telescope's focus.

Which two words could replace **tarnished**?

A. discolored

B. dulled

C. melted

D. split

E. twisted

Sources: Mississippi MAAP 2016-2017 Practice Test, 2016-2017 Item Sampler

KEY: 7th Grade Vocabulary Practice Items

Question	Answer	Standard
1	D	L 7.4
2	C	RI 7.4
3	D	RL 7.4
4	D	RL 7.4
5	A, C	L 7.6
6	D	RI 7.4
7	B	RI 7.4
8	B	RL 7.4
9	D, A	L 7.4
10	D	L 7.6
11	C	RI 7.4
12	A, D	RL 7.4
13	C	RL 7.4
14	B	L 7.5
15	A, B	RI 7.4

7th Grade Comprehension Passage I

Excerpt from ***Winds of Hope***

by Katy Duffield

1 William hoped that life could now return to normal. He'd worked hard to pass the exams to enter high school. When the term began, however, William's father explained that, because of the drought, there was no money to pay his school fees. It appeared that William's education would end at eighth grade.

2 Though he could not attend school, William still wanted to learn. He was curious about many things. He took apart radios, trying to discover how they made music. One day, turning a bicycle upside down and cranking the pedals by hand, he figured out that the dynamo that generated electricity for the headlight could be wired to power a radio instead. He asked how gasoline made cars run and how CDs stored songs. No one knew, or even cared much about his questions.

3 Some days, William visited the village library. It had only three shelves, but William found books that interested him—science books about how things worked. William would check out Explaining Physics or Integrated Science, plop under a mango tree, and pore over the drawings and diagrams inside. Since his English was not very good, he often looked up words in the dictionary or asked the librarian. He wondered if something in these books might be useful to his family.

4 One day, while looking for a dictionary on the bottom shelf, he found a book he hadn't seen before pushed behind the others. It was an American school textbook called Using Energy. On the book's cover was a picture of a row of windmills, tall steel towers with blades spinning like giant fans. They reminded William of the toy pinwheels he'd made with his friends.

Source: EngageNY 2019 7th Grade Released Items

5 From this book William learned that wind—something of which Malawi had plenty—could produce electricity. William was delighted! Only two percent of the houses in Malawi have electricity. After the sun sets, everyone stops what they're doing, brushes their teeth, and goes to sleep—at seven in the evening! If William could build a windmill, his family could have lights in their home. And a windmill could be used to pump water to irrigate the family's maize fields. If another drought came, the windmill could provide the water for life.

6 William could picture in his mind the windmill he wanted to build, but collecting the parts and tools he needed would take months. In a junkyard across from the high school, William dug through piles of twisted metal, rusted cars, and worn-out tractors, searching for anything that might help him construct his machine. He took a ring of ball bearings from an old peanut grinder and the cooling fan from a tractor engine. Cracking open a shock absorber, he removed the steel piston inside. He made four foot-long blades from plastic pipe, which he melted over a fire, flattened out, and stiffened with bamboo poles.

7 Earning some money loading logs into a truck, he paid a welder to attach the piston to the pedal sprocket of an old bicycle frame. This would be the axle of the windmill. When the wind blew, the rotating blades would turn the bicycle wheel, like someone pedaling, and spin a small dynamo. Although he had no money for a dynamo, a friend came to the rescue and bought one from a man in the road, right off his bike.

8 Village kids laughed at William when they saw him scrounging in the scrap yard. They called him misala, which means crazy. But William was too focused on his idea to care.

9 When he had collected all the parts, William took them out of the corner of his bedroom, laid them outside in the shade of an acacia tree, and began putting them together. Since he did not have a drill to make bolt

holes, he shoved a nail through a maize cob, heated it in the fire, then pushed its point through the plastic blades. He bolted the blades to the tractor fan, using washers he'd made from bottle caps. Next he pushed the fan onto the piston welded to the bicycle frame. With the help of his two best friends, William built a 16-foot-tall tower from trunks of blue gum trees and hoisted the ninety-pound windmill to the top.

10 Shoppers, farmers, and traders could see William's tower from the local market. They came in a long line to find out what the "crazy" boy was up to. "What is it?" they all asked.

11 Since there is no word for "windmill" in Chichewa, the language of Malawi, William answered with the phrase magetsi a mphepo—"electric wind." From the top of the tower he explained that, by using the power of wind, his machine could create electricity. No one believed him.

12 William knew this was his moment—his moment to show everyone he wasn't crazy, to find out if his experiment would work. He connected two wires from the dynamo to a light socket he'd made from a reed and that held a small bulb. As the wind whipped around him, he removed the bent spoke he'd jammed into the wheel to lock it. Then he held his breath....

13 The blades began to turn, slowly at first, then faster and faster. The light bulb flickered, then flashed to life. The crowd cheered from below. "Wachitabwina! Well done!"

14 A month later William found enough wire to reach from the windmill into his house. His family crowded around to marvel as the small bulb lit up in William's room. Reading Explaining Physics by its light, he stayed up long after others had gone to bed.

15 In 2006, a school inspector saw the windmill and informed his head office. William's machine now powered four lights and two radios in his house. He'd added a storage battery with homemade switches and a circuit breaker. He also recharged village cell phones.

Source: EngageNY 2019 7th Grade Released Items

16 Soon William was being interviewed on the radio and photographed for the newspapers. The story of the boy with only an eighth-grade education who'd built "electric wind" spread across the Internet.

Source: EngageNY 2019 7th Grade Released Items

1. How do paragraphs 2 and 3 develop a central idea in the article?

A They state that William was not able to attend school.
B They show how William learned things on his own.
C They explain that others did not care about William's questions.
D They give examples of the types of books William read.

2. What does the phrase "pore over" mean as it is used in paragraph 3?

A write about
B glance at
C examine
D copy

3. Paragraph 6 develops the author's central claim by showing that William

A was distracted by so many objects in the junkyard
B was resourceful in finding what he needed
C was able to make use of his limited time in school
D was excited to look for new projects

4. Which sentence best describes the relationship between William and the people who doubted him?

A William was inspired and delighted by them.
B William ignored and then convinced them.
C William was concerned and worried about them.
D William listened to and then got help from them.

Source: EngageNY 2019 7th Grade Released Items

5. In paragraph 14, what does the word "marvel" suggest?

A They are amazed by what William has done.
B They are curious to see what will happen to the bulb.
C They are worried that William's experiment may be dangerous.
D They are ready to have more lights in the house.

6. Which quotation shows an effect of success on William's life?

A "Shoppers, farmers, and traders could see William's tower from the local market." (paragraph 10)
B "From the top of the tower he explained that, by using the power of wind, his machine could create electricity." (paragraph 11)
C "William knew this was his moment—his moment to show everyone he wasn't crazy . . ." (paragraph 12)
D "The story of the boy with only an eighth-grade education who'd built 'electric wind' spread across the Internet." (paragraph 16)

7. Based on the information in the article, which of the following is most likely the author's point of view?

A Access to formal schooling is important for success.
B Science education is needed to help people flourish.
C Curiosity and persistence can lead to change.
D Families are the best support system.

Source: EngageNY 2019 7th Grade Released Items

KEY: 7th Grade Comprehension Passage I

Excerpt from ***Winds of Hope***

by Katy Duffield

	Item Type	Correct Answer		Standard
1	Multiple Choice	B	1	CCSS.ELA-Literacy.RI 7.2
2	Multiple Choice	C	1	CCSS.ELA-Literacy. L 7.4
3	Multiple Choice	B	1	CCSS.ELA-Literacy.RI 7.5
4	Multiple Choice	B	1	CCSS.ELA-Literacy.L RI 7.3
5	Multiple Choice	A	1	CCSS.ELA-Literacy. RI 7.4
6	Multiple Choice	D	1	CCSS.ELA-Literacy. RI 7.3
7	Multiple Choice	C	1	CCSS.ELA-Literacy RI 7.6

Source: EngageNY 2019 6th Grade Released Items

7th Grade Comprehension Passage II

Excerpt from ***The Wednesday Wars***

by Gary D. Schmidt

The narrator, Holling Hoodhood, has a crush on Meryl Lee Kowalski. Holling's father has been honored earlier in the story by a local business group as the best businessman of 1967.

1 The following week the school board met to decide on the model for the new junior high school—which was probably why Mr. Kowalski had been spending all his time muttering "classical, classical, classical." The meeting was to be at four o'clock in the high school administration building. Mr. Kowalski would present his plan and model, and then my father would present his plan and model, and then the school board would meet in private session to decide whether Kowalski and Associates or Hoodhood and Associates would be the architect for the new junior high school.

2 I know all of this because my father was making me come. It was time I started to learn the business, he said. I needed to see firsthand how competitive bidding worked. I needed to experience architectural presentations. I needed to see architecture as the blood sport that it truly was...

3 The meeting was in the public conference room, and when I got there after school, the school board members were all sitting at the head table, studying the folders with architectural bids. Mr. Kowalski and my father were sitting at two of the high school desks—which made the whole thing seem a little weirder than it needed to be. In front of them was a long table with two models for the new junior high school, each one covered with a white sheet, like they were some sort of national secret...

4 Mr. Kowalski picked up his presentation notes and angled out of his seat. He went up to the table with the models and stood there for a moment. Then he turned and looked at—no, not my father. At me!

5 Mr. Kowalski cleared his throat. Twice. He looked at his design papers. He cleared his throat. Then he looked back at me once more, and began.

6 "Gentlemen," he said, "though this is irregular, I have made some significant changes for the interior of the new junior high since my original submission. In fact the entire concept has changed markedly. So the plans that you studied for this afternoon's presentation have also changed. I have copies of the new interior plan and ask the board's patience as I show you the concept. This may take slightly longer than the allotted time, but I'm sure that the Chamber of Commerce Businessman of 1967 won't begrudge Kowalski and Associates a few extra minutes in order to clarify the proposal, and to promote the general business atmosphere of the town."

7 What could the Chamber of Commerce Businessman of 1967 do? He shrugged and nodded. But the back of his neck grew as red as boiling sin, and I knew he did begrudge the extra time. He begrudged it a whole lot.

8 Mr. Kowalski pulled the sheet off his model of the junior high school. He cleared his throat again. "As you can see, gentlemen," said Mr. Kowalski, "the design is quite classical, in the best traditions of our national architecture, for a time when our children desperately need to be reminded of our great American traditions."

9 And it was. It looked like the Capitol in Washington, D.C. Wide steps swooped up past a line of pillars and up to the central doors. Above that rose a steep dome, with thin windows cut all around it. On either side of the dome, the building spread graceful wings—all with thin windows again—and behind, the long gymnasium formed the tail, whose rows of bright windows faced south and north to let in as much light as any gymnasium could ever have.

10 "But we live in 1978, gentlemen," Mr. Kowalski said. "Just as our children need to be reminded of our great traditions, so, too, do they need to enjoy the advantages of contemporary technology. I think you'll find the new interior design both modern and innovative, a perfect blend of where we have been and where we are going as a nation." He handed out copies of the plans for the new design to all the school board members, keeping his back to my father and me the whole time. Then he took us through the new interior. Slowly. 1

11 No pillars, no straight walls. The roof a series of glass plates above the science and art room. The central dome three stories high over the main lobby and clusters of classrooms all looking out into the sunlit space. All as modern as could be.

12 The school board was astounded. Three of them applauded—not Mr. Bradbrook, since God doesn't applaud.

13 My father turned and looked at me again. His face was very red, and I could tell he was fighting for some kind of control. "Holling, there's something you should have told me, isn't there?" he whispered slowly.

14 He used the kind of voice that, in my family, means that a voice a whole lot louder is about to come along in a minute or two, so you'd better start preparing.

15 But let me tell you, I didn't really care all that much about what he would say or how loudly he would say it. I really didn't.

16 Because suddenly I knew something a whole lot worse.

17 Romeo was a genius compared to me.

18 I hadn't seen at all what Meryl Lee was doing on Valentine's Day, while we were sipping sodas at the lunch counter at Woolworth's. I hadn't realized how easily she had gotten what she wanted from me: my father's design for the new junior high.

1. What role do paragraphs 1 through 3 mainly play in the story?

A They clarify the emotions that the two architects are feeling.

B They foreshadow the surprise at the ending.

C They set the scene and explain the process for picking a new design.

D They set a humorous tone by describing the two architects sitting in school desks.

2. In paragraph 6, "markedly" means doing something in

A an obvious way

B a careful way

C a respectful way

D an enthusiastic way

3. How does the word choice in paragraphs 9 and 11 affect the story?

A It describes how similar the design is to the Capitol building.

B It shows why the design is practical for a school.

C It conveys how impressive Mr. Kowalski's design is.

D It explains what classical architecture looks like.

4. How do paragraphs 4 and 5 connect to what the reader learns in paragraph 18?

A They reveal that Mr. Kowalski thinks Holling's father is a better architect than he is.

B They support the idea that Mr. Kowalski is guilty of stealing Mr. Hoodhood's plans.

C They show that Mr. Kowalski hopes Holling likes his plan for the school.

D They provide information about how Mr. Kowalski's and Mr. Hoodhood's designs are different.

5. What do paragraphs 15 through 18 reveal about Holling?

A He disobeys his father easily.

B He did not know he was being deceived.

C He is unconcerned with the opinions of others.

D He is a dishonest person.

6. How does the author develop Holling's point of view in the story?

A by explaining how his father sees the competition

B by describing Mr. Kowalski's plans for the school building

C by describing his observations until he realizes what has happened

D by explaining the architectural review process

7. Which detail about Mr. Kowalski and Mr. Hoodhood would be most important to include in a summary of the story?

A They have model buildings under sheets on the table.

B They are competing to design a new school.

C They must meet with the school board at a school.

D They have to wait to hear who has been chosen.

KEY: 7th Grade Comprehension Passage II

Excerpt from ***The Wednesday Wars***

by Gary D. Schmidt

	Item Type	Correct Answer		Standard
1	Multiple Choice	C	1	CCSS.ELA-Literacy. RL 7.5
2	Multiple Choice	A	1	CCSS.ELA-Literacy. L 7.4
3	Multiple Choice	C	1	CCSS.ELA-Literacy. RL 7.4
4	Multiple Choice	B	1	CCSS.ELA-Literacy.L RL 7.3
5	Multiple Choice	B	1	CCSS.ELA-Literacy. RL 7.3
6	Multiple Choice	C	1	CCSS.ELA-Literacy. RL 7.6
7	Multiple Choice	B	1	CCSS.ELA-Literacy RL 7.2

Source: EngageNY 2019 7th Grade Released Items

7th Grade Comprehension Passage III

Antarctica ' s Hidden Wetland: From Ice to E.T.

by Mary Reina

1 A huge lake hides miles below the ice sheet that covers most of Antarctica. That's big news for anyone interested in Earth. But scientists who look beyond our planet are excited too. Astronomers see signs of thick sheets of ice covering large bodies of liquid water in other places in our solar system.

2 This unseen world on our own planet could help scientists search for life beyond Earth. This possibility makes Antarctica one of the most valuable environments on Earth. At least, that's how scientists view it now.

Unlikely in the Extreme

3 For a long time, most scientists didn't think liquid water could exist under Antarctica's ice cover. Water freezes at 32°F/0°C. A research station called Vostok is located on top of a thick Antarctic ice sheet. Scientists there once recorded the surface temperature as −128.6°F/−89°C.

4 In the 1950s, Andrei Kapitsa, a Russian scientist working at Vostok, noticed something strange. A formation of very flat ice stretched over the research area. He believed it was a clue suggesting a body of liquid water existed below the ice.

5 Then, in the 1970s, planes equipped with more advanced equipment offered new information. As part of a mapping project, pilots used ground-penetrating radar over the Vostok station. The data suggested the planes were flying over water. Even then, scientists did not fully realize that an amazing liquid world was hidden beneath the ice. Finally, in 1996, satellite technology revealed the shape of a huge subglacial lake.

6 Lake Vostok is about 140 miles (225 kilometers) long. It is about 30 miles (50 kilometers) wide and the water in the lake reaches as much as

2,625 feet (800 meters) deep. Such an immense size makes this lake one of the largest in the world. What had seemed impossible turned out to be true.

Signs of Life?

7 In addition to Lake Vostok, scientists found a huge system of rivers and almost 400 lakes hidden below the Antarctic ice. This could be the largest wetland in the world, as much as one and a half times the size of the United States.

8 While some scientists mapped out these hidden lakes on Earth, others were discovering ice-covered environments elsewhere in the solar system. During the 1990s, the *Galileo* spacecraft flew by the planet Jupiter and its moons. It sent back photographs suggesting that an ocean exists below the surface of the ice-covered moon called Europa.

9 As time went on, more research provided new possibilities. Other moons of Jupiter and Saturn seemed to be worlds where thick, icy shells surround large bodies of liquid water.

10 Could life exist in such an extreme environment? It certainly seems unlikely. As with the discovery of Lake Vostok, the clues for scientists seeking life pointed in "unlikely" directions. Most life on Earth depends on sunlight. How could sunlight penetrate an ice cover thousands of feet deep? Living things also depend on nutrients to grow. Where would these come from? Scientists wondered how nutrients could enter a system that has been cut off from the world above for millions of years. What's more, they knew that any kind of life in this extreme environment would have to survive tons and tons of pressure from the ice above.

11 Yet, in the deep ocean, some life forms exist without sunlight. □eir nutrients come from the chemicals that rise through the ocean floor from deep inside the Earth. These creatures have developed qualities that allow them to thrive under the weight of tons of water.

12 Could living things with similar abilities exist in Antarctica's subglacial wetland? If they do, life might also be possible in the icy moons of the outer solar system.

Looking for Proof

13 First, scientists needed to obtain and test water samples from Antarctica's hidden world. It was easier said than done. Antarctica's extreme cold and short summer season permits only a few months of research each year. Even then, drilling into the ice posed another big problem.

14 Drilling technology uses chemicals like kerosene and Freon to help melt the ice, make a borehole, and keep it open. If the drill penetrated the lake, the chemicals could contaminate the water. This process could also introduce microbes from the surface into water that had been isolated from the rest of the world for millions of years.

15 Scientists had been drilling into the ice above Lake Vostok long before its discovery. The ice cores they obtained helped them study a record of Antarctica's climate going back hundreds of thousands of years. Ice just above the lake showed signs of microscopic life. It was a clue but it was not proof.

16 A research team penetrated Lake Vostok in 2012. They used chemicals to melt the ice and to keep the borehole open. However, they believed they did not contaminate the lake because water rushed into the borehole and froze. The team removed the ice core to study it. However, many other scientists questioned this method.

17 In 2013, Lake Whillans, located in a different area of Antarctica, became the first subglacial lake where clean technology helped scientists obtain a water sample. Hot water and ultraviolet light helped sterilize the drills and equipment. Scientists wore sterile clothing so that they did not contaminate any water samples.

18 They found almost 4,000 types of microbes not only surviving but also thriving in Lake Whillans. Some seem to feed on the chemicals found in solid matter, called sediment, at the bottom of the lake. Others use the dead bodies of other microbes as food.

19 So far, scientists have found only single-celled microbes living in the few places where they have tested the subglacial water. More research and testing may help them discover if larger life forms survive in this extreme environment.

Source: EngageNY 2019 Released 7th Grade ELA Items

1. How does paragraph 3 relate to the other paragraphs in the section "Unlikely in the Extreme"?

A Paragraph 3 introduces a problem, and the other paragraphs explain the solution to the problem.

B Paragraph 3 explains an idea, and the other paragraphs describe how the idea was disproved.

C Paragraph 3 presents an argument, and the other paragraphs give evidence to support the argument.

D Paragraph 3 sets up a comparison, and the other paragraphs give details about the comparison.

2. What role does paragraph 8 play in the organization of the article?

A It shows techniques that scientists use to study remote regions.

B It explains how the environment on Jupiter might support life.

C It describes the activities of scientists interested in extreme environments. D It introduces the connection between activities on Earth and research in outer space.

3. How does paragraph 10 develop a central idea in the article?

A It explains how life in an extreme environment could be possible.

B It describes scientific research on the possibility of life in an extreme environment.

C It provides clues to the possible existence of life in an extreme environment.

D It presents questions to be answered about the possibility of life in an extreme environment.

Source: EngageNY 2019 Released 7th Grade ELA Items

4. How did scientists address the concern described in paragraph 14?

A They removed an ice core from the lake to study it.

B They applied chemicals to melt ice and keep the borehole open.

C They obtained a water sample with clean technology.

D They found sediment at the bottom of the lake.

5. What is the meaning of the word "contaminate" as used in paragraphs 14 and 16?

A color

B replace

C freeze

D pollute

6. According to the information in this article, which sentence describes how life was discovered beneath Antarctica?

A Scientists found proof of water beneath Antarctic ice, then they drilled to get samples of the water to look for life.

B Scientists saw signs of ice that may cover water on other planets, so they drilled for water beneath Antarctic ice.

C Scientists knew that there were life forms in the deep parts of the ocean, so they concluded that there was life in the water beneath Antarctic ice.

D Scientists found microbes on the surface of Antarctic ice, then they drilled into the ice to look for microbes beneath the surface.

7. Which sentence best shows the author's point of view on the topic of the article?

A The amount of water below the ice in Antarctica is surprising.

B Astronomers are excited about signs of ice and water on other planets.

C Antarctica is one of the most important scientific environments on Earth.

D The formation of very flat ice at the Vostok station is an important clue.

Source: EngageNY 2019 Released 7th Grade ELA Items

KEY: 7th Grade Comprehension Passage III

Antarctica ' s Hidden Wetland: From Ice to E.T.

by Mary Reina

	Item Type	Correct Answer		Standard
1	Multiple Choice	B	1	CCSS.ELA-Literacy. RI 7.5
2	Multiple Choice	D	1	CCSS.ELA-Literacy. RI 7.5
3	Multiple Choice	D	1	CCSS.ELA-Literacy. RI 7.2
4	Multiple Choice	C	1	CCSS.ELA-Literacy.L RI 7.3
5	Multiple Choice	D	1	CCSS.ELA-Literacy. RI 7.4
6	Multiple Choice	A	1	CCSS.ELA-Literacy. RI 7.3
7	Multiple Choice	C	1	CCSS.ELA-Literacy RI 7.6

Source: EngageNY 2019 7th Grade Released Items

Source: EngageNY 2019 7th Grade Released Items

7th Grade Comprehension Passage IV

Excerpt from ***Coral Reef: A City That Never Sleeps***

by Mary M. Cerullo

1 By late afternoon, the daytime fishes become less interested in feeding and start to move closer to their evening retreats. Perhaps they grow nervous as their day vision becomes less efficient at dusk. The smallest fishes start the rush hour to return to their shelters for the night. Soon others follow their example.

2 The bright colors of the diurnal[1] fishes fade fast in the twilight. Some fishes can actually adjust color cells in their skin to alter their flashy daytime look to dull, darker night shades. The gathering gloom just makes others appear darker. The best defense is to disappear entirely inside the coral reef, because now the fishes' dark outlines are silhouetted against the setting sun to predators below.

3 Parrotfishes leave their feeding grounds in single file to seek out their individual hiding places in the reef. Some parrotfishes secrete a sticky cocoon from beneath their scales to seal their scent from hungry moray eels. If any creature tries to penetrate the mucus bubble, the parrotfish wakes up and bolts from its "bedroom." Some species of wrasses[2] also make cocoons for the night. Others bury themselves in the sand.

4 Because fishes don't have eyelids to close, it's impossible to tell whether or not most fishes are really sleeping. Parrotfishes do seem to go into a trancelike state at night. If they are disturbed from their rest, they act dazed and confused, like humans wakened out of a sound sleep.

---

[1] Diurnal: active during daytime

[2] Wrasses: marine fish of tropical and temperate seas having thick lips, strong teeth, and usually a bright coloration; many are used as food

Source: EngageNY 2017 7th Grade Released Items

5 A triggerfish locks itself inside a coral cave with a tall spine on its back fin. One spine folds down over the first spine like a door latch to hold it in place. Only the triggerfish can release its trigger spine, so a moray eel can't pull it from its retreat.

Shadow Patrols

6 Many carnivores, such as jacks, snappers, sharks, barracuda, and groupers, take advantage of the weariness and confusion of transition time on the reef. Their eyes, sensitive to dim light, are better equipped for this time of day than those of the diurnal fishes. Though twilight predators are not very good at distinguishing colors, they can detect shape, outlines, and movement well. The daytime fishes flowing back to the reef offer a constant stream of shape and movement.

7 Many predators that have been quietly waiting in the background all day become more active at dusk and dawn. The crepuscular[3] hunters have ingenious[4] ways of picking off their prey. A grouper leaves its den beneath a coral overhang to vacuum up prey with its cavernous mouth. By thrusting out its lower jaw, its mouth becomes big enough to swallow almost any prey. It has been rumored that giant groupers (which may weigh up to 1,000 pounds) have been known to swallow divers whole! Then, the stories go, they spit them out again because they don't like the taste of their wetsuits.

8 Streamlined jacks hunt in packs like jackals. They surround a school of fish, separate several from their companions, and bring them down after a high-speed chase. A lionfish may use its winglike side fins to sweep fish into a corner of the reef where they can't escape. Other times, it lies motionless and gulps fish that come too close.

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[3] Crespular: active in twilight

[4] Ingenious: clever

Source: EngageNY 2017 7th Grade Released Items

9 Although sharks visit the coral reef at dawn and dusk, they have such an effective array of sensory devices that they can zero in on prey at any time. Their excellent sense of smell has earned sharks the nickname of "swimming noses." Sharks' lateral lines are especially sensitive to the low-frequency vibrations given off by struggling fishes. Their most impressive sense is located inside sensory pores on the snout. This sense detects the faint electric pulses generated by the beating hearts of their victims. Vision is probably their weakest sense, yet many sharks have catlike eyes with mirror cells to reflect and concentrate dim light. Some sharks' eyes are so sensitive that they can hunt by starlight on a moonless evening.

10 Dusk, that time between twilight and full darkness, is the spawning time for many diurnal fishes. As one scientist explains, "It gives their eggs and sperm a twelve-hour head start to escape the hungry mouths on the reef." Many daytime fishes move into deeper water, rise to the surface, or spawn during outgoing tides to let ocean currents carry their eggs and sperm to less populated areas far from the reef.

Ghost Town

11 About ten minutes after sunset, an eerie quiet descends on the reef. Swaying sea fans provide the only visible movement, like tumbleweeds blowing through a ghost town in a Western movie. The coral passages are silent, deserted, and vaguely menacing. The daytime fishes have retreated to their shelters. Many large predators have headed off with the setting sun into the deeper waters beyond the reef. Others—some groupers, snappers, and reef sharks—remain hidden in the shadows where they can ambush any lone stragglers.

12 The quiet period lasts only about 15 to 20 minutes. Then, as abruptly as if a film director had shouted "Cut!" nocturnal creatures burst onto the set and the scene changes to night maneuvers

Source: EngageNY 2017 7th Grade Released Items

1. According to the article, why do some parrotfishes make a cocoon?

A to attract other fishes to their hiding place

B to show other fishes they are asleep

C to create a safe place for their eggs

D to hide themselves from predators

2. Why are some diurnal fishes harder to see in the evening than in the daytime?

A The movement on the reef blurs their shapes.

B Their predators can only detect outlines.

C The light casts shadows that hide them.

D Their skin color changes to blend in.

3. What statement best summarizes the information in lines Paragraphs 1 and 2?

A Daytime fish who live in the coral reef generally stop feeding at dusk.

B Fish have the natural ability to become less visible at night in the coral reef.

C Predatory fish hide in the coral reef so they can feed on the diurnal fish.

D Fish in the coral reef have remarkably better vision during the day.

Source: EngageNY 2017 7th Grade Released Items

4. Which sentence from the article best explains why some fishes may be dangerous to humans?

A "Though twilight predators are not very good at distinguishing colors, they can detect shape, outlines, and movement well." (Paragraph 6)

B "Many predators that have been quietly waiting in the background all day become more active at dusk and dawn." (Paragraph 7)

C "The crepuscular hunters have ingenious ways of picking off their prey." (Paragraph 7)

D "By thrusting out its lower jaw, its mouth becomes big enough to swallow almost any prey." (Paragraph 7)

5. What does the phrase "zero in on" in line Paragraph 9 mean?

A to locate

B to look

C to threaten

D to smell

6. The author develops a central idea about how fishes adapt to their environments by focusing mostly on the

A light in the water

B depth of the reef

C currents in the water

D shape of the reef

Source: EngageNY 2017 7th Grade Released Items

7. Which detail is most important to include in a summary of the article?

A "Because fishes don't have eyelids to close, it's impossible to tell whether or not most fishes are really sleeping." (Paragraph 4)

B "Many predators that have been quietly waiting in the background all day become more active at dusk and dawn." (Paragraph 7)

C "It has been rumored that giant groupers (which may weigh up to 1,000 pounds) have been known to swallow divers whole!" (Paragraph 7)

D "Many daytime fishes move into deeper water, rise to the surface, or spawn during outgoing tides . . ." (Paragraph 10)

Source: EngageNY 2017 7th Grade Released Items

KEY: 7th Grade Comprehension Passage IV

Excerpt from ***Coral Reef: A City That Never Sleeps***

by Mary M. Cerullo

	Item Type	Correct Answer		Standard
1	Multiple Choice	D	1	CCSS.ELA-Literacy. RI 7.1
2	Multiple Choice	D	1	CCSS.ELA-Literacy. RI 7.1
3	Multiple Choice	B	1	CCSS.ELA-Literacy. RI 7.2
4	Multiple Choice	D	1	CCSS.ELA-Literacy.L RI 7.1
5	Multiple Choice	A	1	CCSS.ELA-Literacy. RI 7.4
6	Multiple Choice	A	1	CCSS.ELA-Literacy. RI 7.2
7	Multiple Choice	B	1	CCSS.ELA-Literacy RI 7.6

Source: EngageNY 2017 7th Grade Released Items

Source: EngageNY 2017 7th Grade Released Items

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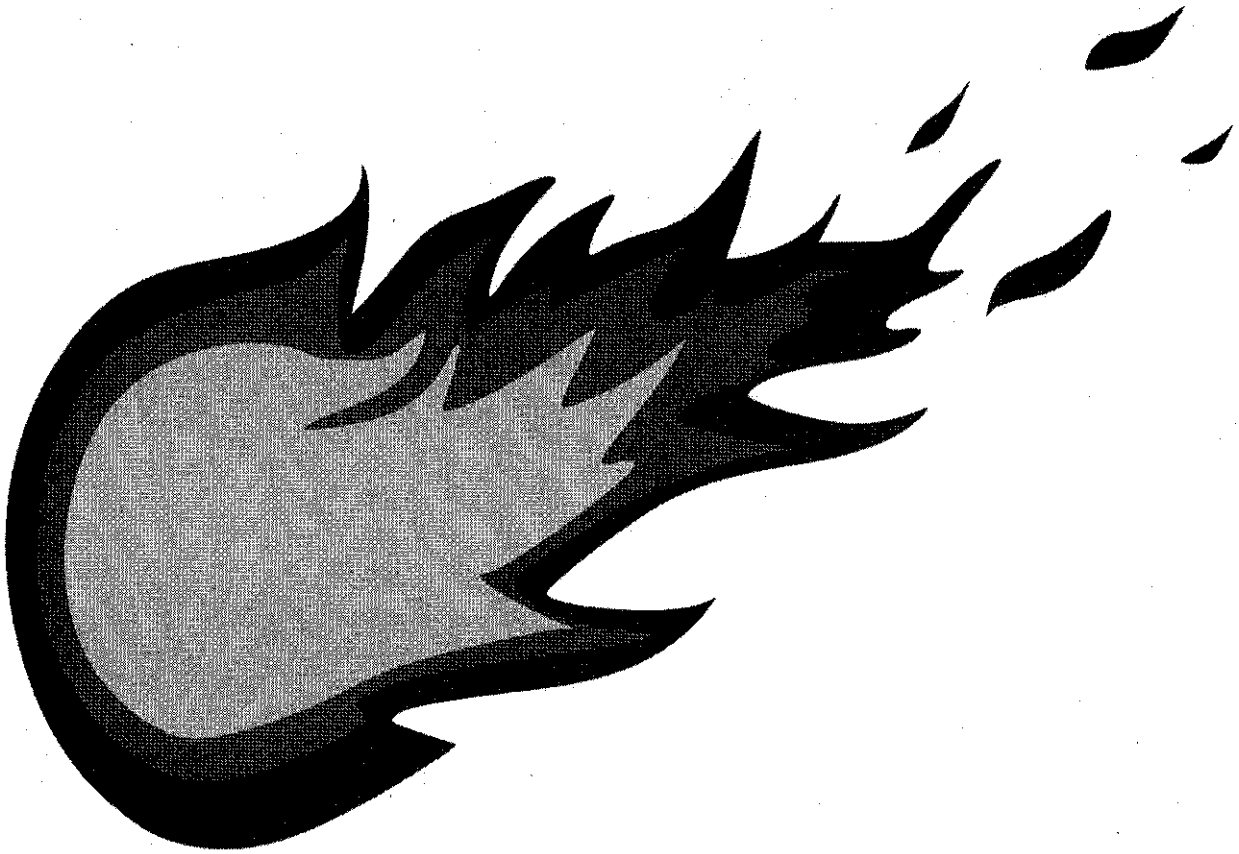
7th Grade Math



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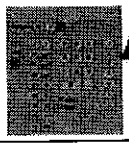
MAFS.7.EE.1.1-FSA Practice



A CALCULATOR IS ALLOWED

1. Which expression is equivalent to $\frac{1}{4}(8 - 6x + 12)$?

   Ⓐ $\frac{7}{2}x$

   Ⓑ $-\frac{13}{2}x$

   Ⓒ $-6x + 14$

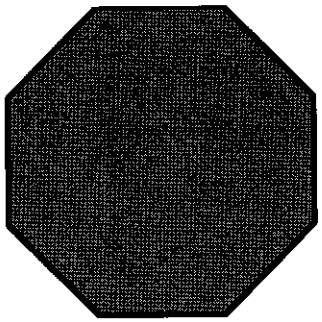
   Ⓓ $-\frac{3}{2}x + 5$

2. Mark all of the expressions in the table that are equivalent to: $-1.8\,x - 11.76\,y + 10.8$.
   Explain or show work to justify your decisions.

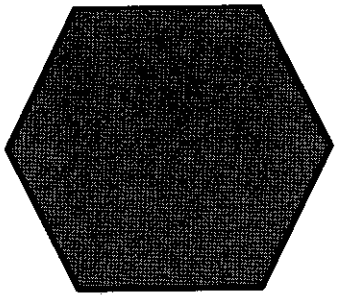
	Expression	Equivalent	Explanation
A.	$-1.8x - 11.76y + (10.8 + 3.06) - 3.06$	☐	
B.	$-1.8(x + 11.76y - 10.8)$	☐	
C.	$\frac{1}{2} \cdot (-1.8x - 11.76y + 10.8) \cdot 2$	☐	
D.	$-1.8x - 11.76y + 0 \cdot 4.2z + 10.8$	☐	
E.	$-(1.8x - 11.76y + 10.8)$	☐	

3. A regular octagon has a side length of $\frac{3}{4}x - \frac{1}{4}$. A regular hexagon has a side length of $12 - x$.

$\frac{3}{4}x - \frac{1}{4}$.



$12 - x$



The difference between the *perimeters* of the two shapes is represented by the expression

$8\left(\frac{3}{4}x - \frac{1}{4}\right) - 6(12 - x)$.

Write an expression equivalent to $8\left(\frac{3}{4}x - \frac{1}{4}\right) - 6(12 - x)$ using the fewest possible terms. Show all work neatly and clearly.

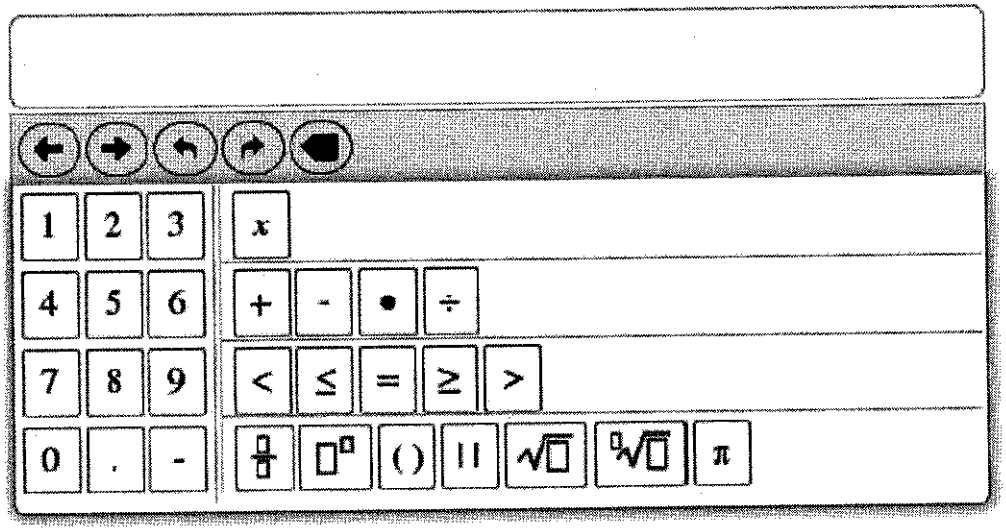
4. The students in Mr. Sanchez's class are converting distances measured in miles to kilometers. To estimate the number of kilometers, Abby takes the number of miles, doubles it, then subtracts 20% of the result to create the expression, $2m - 0.2(2m)$.

Renato first divides the number of miles by 5, then multiplies the result by 8 to create the expression, $8\left(\frac{m}{5}\right)$.

Determine if the two expressions are equivalent.

5. What is the difference of the two expressions?

$$\left(\frac{3}{7}x+9\right)-\left(\frac{2}{7}x-3\right)$$



Neutral-Questions for this standard may or may not allow the use of a calculator.

MAFS.7.EE.1.2

1. A garden is 15-feet long by 5-feet wide. The length and width of the garden will each be increased by the same number of feet. This expression represents the perimeter of the larger garden:

$$(x + 15) + (x + 5) + (x + 15) + (x + 5)$$

Which expression is equivalent to the expression for the perimeter of the larger garden?

Select **all** that apply.

Ⓐ $4x + 40$

Ⓑ $2(2x + 20)$

Ⓒ $2(x + 15)(x + 5)$

Ⓓ $4(x + 15)(x + 5)$

Ⓔ $2(x + 15) + 2(x + 5)$

2. Andrew sells treats from his ice cream cart. The items he sells along with their prices are shown in the table.

Item	Price	Quantity
Frosty Mango Pop	$1.75	*a*
Frozen Fruit Yogurt	$2.25	*b*
Sundae Swirl Cup	$2.75	*a*
Chocolate Chip Cone	$2.25	*c*
Fudge Sandwich	$1.75	*b*

Suppose Andrew sells the quantities of each item given by the variables in the table.

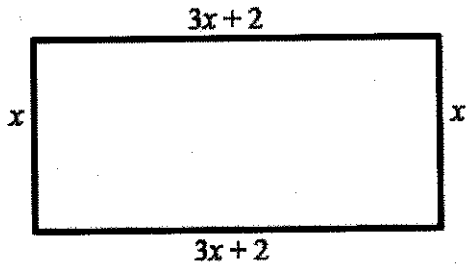
What does the expression $1.75a + 2.25b + 2.75a + 2.25c + 1.75b$ represent in the context of this problem?

3. An expression equivalent to the one above is $4.5a + 4b + 2.25c$.

What does the first expression show about the quantities in this problem that the second expression does not show?

Use the below diagram for problems 4, 5, & 6.

4. The width of the rectangle is x inches and the length is $(3x + 2)$ inches.



Brit represented the perimeter of the rectangle using the expression:

$x + (3x + 2) + x + (3x + 2)$.

Explain how Brit's expression represents the perimeter of the rectangle.
Write your answer in the space provided.

5.	Abbey represented the perimeter of the rectangle in problem with the expression $8x + 4$. Determine if Abbey's expression is equivalent to Brit's expression. Justify your reasoning. Write your answer in the space provided.
6.	Explain what the second expression, $8x + 4$, indicates about finding the perimeter of the rectangle. Write your answer in the space provided.

Neutral-Questions for this standard may or may not allow the use of a calculator.

MAFS.7.EE.1.2-FSA Practice

1. Which expression is not equivalent to the other three?

   A. $-8 - 7n + 16n$

   B. $9(n - 8)$

   C. $n - 8 + 8n$

   D. $9n - 8$

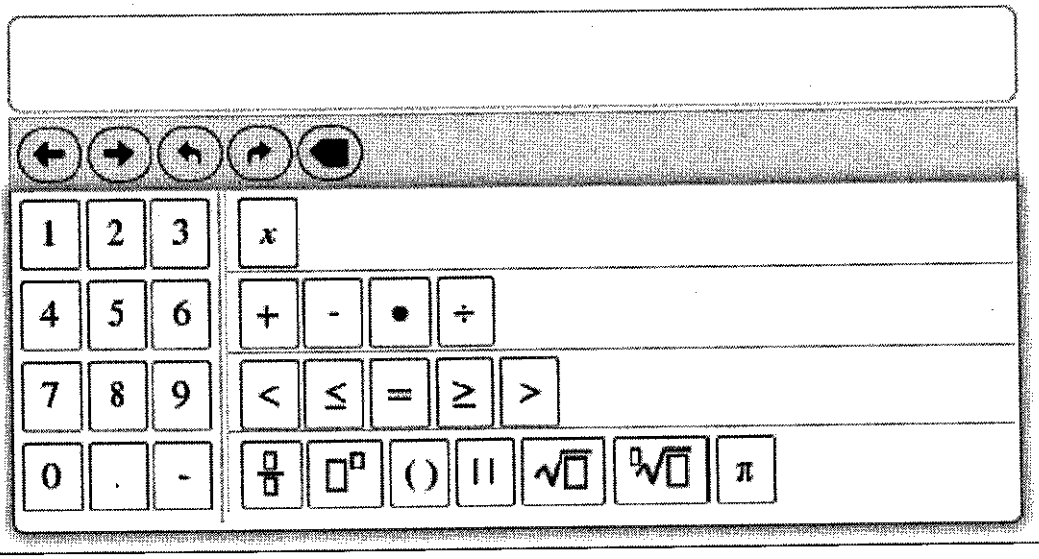
2. Why are the expressions $3(y - 2) + 2(y - 2)$ and $5(y - 2)$ equivalent? Justify your answer.

   Write your answer in the space provided.

3. **Refer to the below information for problems 3, 4, & 5.**

   Malia is at an amusement park. She bought 14 tickets, and each ride requires 2 tickets.

   Write an expression that gives the number of tickets Malia has left in terms of x, the number of rides she has already gone on. Find at least one other expression that is equivalent to it.



4. $14 - 2x$ represents the number of tickets Malia has left after she has gone on x rides.

How can each of the following numbers and expressions be interpreted in terms of tickets and rides?

14

−2

2x

Write your answer in the space provided.

5. $2(7 - x)$ also represents the number of tickets Malia has left after she has gone on x rides.

How can each of the following numbers and expressions be interpreted in terms of tickets and rides?

7

(7−x)

2

Write your answer in the space provided.

6. Select all the expressions that are equivalent to each other.

- ☐ A. 2(1+2b+3a)
- ☐ B. 2(1+2a)+2(a+2b)
- ☐ C. 6a+2+4b
- ☐ D. 2(3a+1)+4b+1

MAFS.7.EE.2.3

A CALCULATOR IS ALLOWED

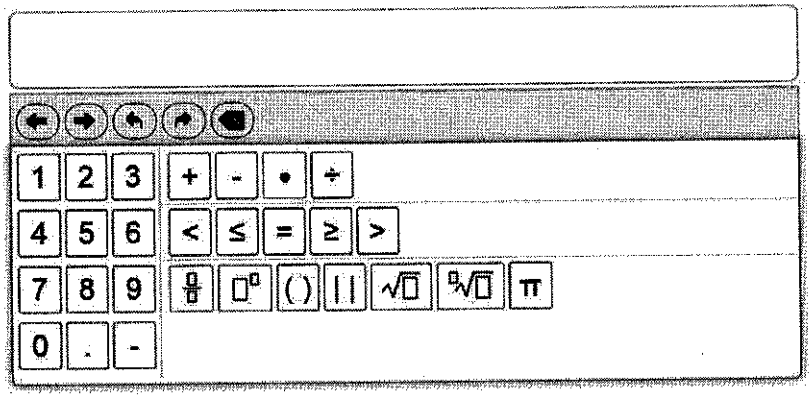
1. **Use the information provided to answer Part A and Part B.**

Each bulleted statement describes how the amount of income tax is determined for yearly taxable incomes in different ranges.

- Yearly taxable incomes of $8,925 or less are taxed at a flat rate of 10%.
- For yearly taxable incomes from $8,926 to $36,250, the first $8,925 is taxed at 10% and any income beyond $8,925 is taxed at 15%.
- For yearly taxable incomes greater than $36,250, the first $8,925 is taxed at 10%, the next $27,325 is taxed at 15%, and any income beyond $36,250 is taxed at 25%.

Part A

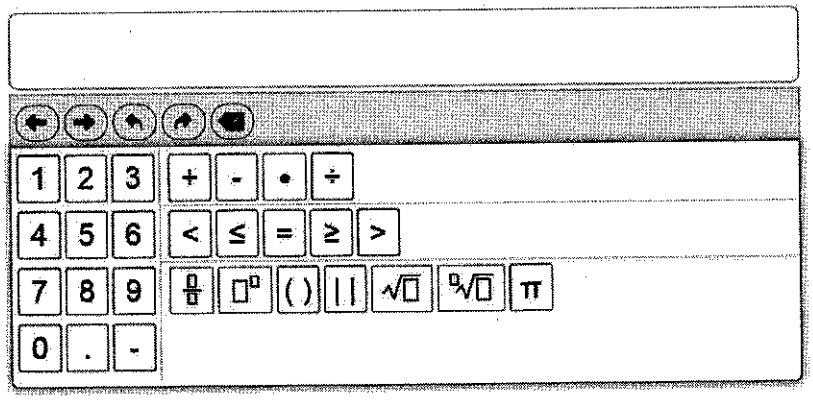
Mr. Vance's yearly taxable income is $35,675. What is the dollar amount taken out for taxes based on Mr. Vance's taxable income?



Part B

Mr. Rivera's taxable income is $20 each hour before taxes are taken out. Mr. Rivera worked a total of 40 hours each week for 50 weeks.

What is the dollar amount, to the nearest dollar, taken out for taxes based on Mr. Rivera's taxable income?



2. Use the information provided to answer Part A and Part B.

Today, Joelle walked 20 minutes at a rate of 3 miles per hour, and she ran 15 minutes at a rate of 6 miles per hour.

Part A

How many total miles did Joelle travel while walking and running?

Part B

Tomorrow, Joelle wants to travel a total of 4 miles by walking and running. She plans to run for 20 minutes at a rate of 6 miles per hour.

How many **minutes** should she walk at a rate of 3 miles per hour to finish traveling the 4 miles?

3. Use the information provided to answer Part A and Part B.

A teacher surveyed students in four classes to determine the location for a field trip. Each student chose only one location. The table shows the number of students from each class who chose each location.

Field Trip Choices

Class	Number of Students Who Chose the Zoo	Number of Students Who Chose the Museum	Number of Students Who Chose the Planetarium
Class E	10	9	8
Class F	8	11	11
Class G	12	8	5
Class H	6	10	8

Part A

Determine the percent of students in each class who chose the museum. What is the order, from **least** to **greatest**, of the percents for each class?

Ⓐ Class E, Class F, Class G, Class H

Ⓑ Class G, Class E, Class F, Class H

Ⓒ Class G, Class E, Class H, Class F

Ⓓ Class H, Class F, Class E, Class G

Part B

The total number of students who chose the zoo is how many times as great as the total number of students who chose the planetarium?

Ⓐ 1

Ⓑ $1\frac{1}{18}$

Ⓒ $1\frac{1}{8}$

Ⓓ $1\frac{1}{9}$

4.	At the beginning of the month, Alexa's bank account contained $4329.97. She then made two deposits of $452.28 each and a withdrawal of $279.34. Alexa estimates that she has about $5000 in her account. Use a mental strategy to determine if her estimate is reasonable. Explain and describe your strategy. Write your answer in the space provided.
5.	Bruno noticed today's gasoline price at the local convenience store was advertised as $3.40 per gallon. This price is 15% above last year's price. Calculate last year's price, showing each step of your work.

MAFS.7.EE.2.3-FSA Practice

A CALCULATOR IS ALLOWED

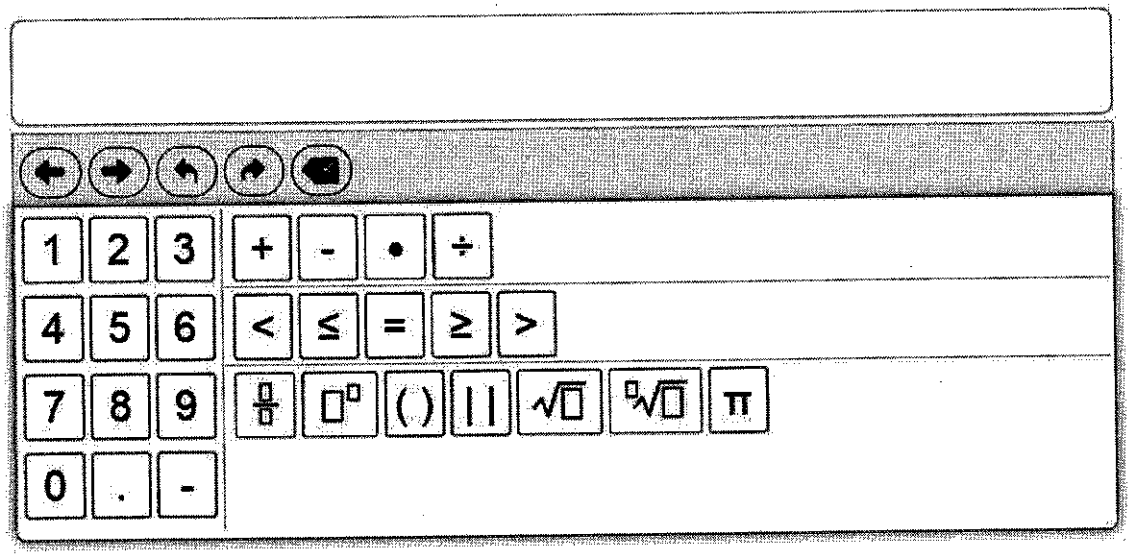
1. **Refer to the below information for problems 1 & 2.**

A Florida factory produces fishing reels at a rate of 800 per day, every day. In April, they are forced to cut their production by $\frac{1}{5}$ due to an aluminum shortage.

A chain of sporting goods stores orders 20,000 fishing reels.
Will the factory be able to produce enough fishing reels in the 30 days of April to meet this order? Explain how you know.

Write your answer in the space provided.

2. How many days will it take the factory to produce the 20,000 fishing reels?



3.	Brittany's family went to dinner at her favorite restaurant because her father had a coupon for 15% off. Her father said if she could correctly figure out the total cost of dinner, including the $6\frac{1}{2}$% sales tax, he would take them all out for frozen yogurt on the way home. The meal cost $53.52 without the discount. Brittany determined the total, with the discount and sales tax, will be $44.50. Did Brittany figure it out correctly? Show your work to support your answer.
4.	Jordan earned $200 this month delivering newspapers. His mom said he must put 20% into his savings account. He wants to buy headphones that cost $99.95 and two shirts that cost $17.99 each. He also has to pay 7% sales tax on his purchases. Jordan said, "No problem. I will put 20% into savings, buy the things I want, and still have about $10 left." Use estimation to determine if Jordan's calculation is reasonable. Show your work.

5. A restaurant makes a special seasoning for all its grilled vegetables.

Here is how the ingredients are mixed:

$\frac{1}{2}$ of the mixture is salt

$\frac{1}{4}$ of the mixture is pepper

$\frac{1}{8}$ of the mixture is garlic powder

$\frac{1}{8}$ of the mixture is onion powder

When the ingredients are mixed in the same ratio as shown above, every batch of seasoning tastes the same.

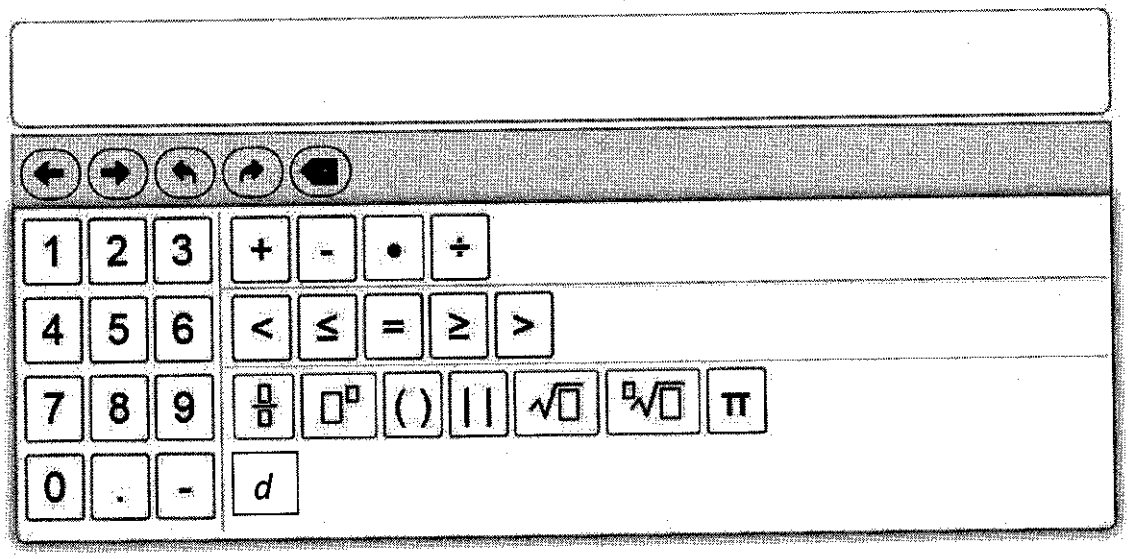
Study the measurements for each batch in the table.
Fill in the blanks so that every batch will taste the same.

Ingredients	Batch 1	Batch 2	Batch 3
Salt (cups)	1	_____	_____
Pepper (cups)	_____	1	_____
Garlic powder (cups)	$\frac{1}{4}$	_____	1
Onion powder (cups)	_____	_____	1

	MAFS.7.EE.2.4	**A CALCULATOR IS ALLOWED**
1.	Two equations are shown. • Equation 1: $-0.5x - 4 = 1.5$ • Equation 2: $-0.5(x - 4) = 1.5$ Select **each** statement that **must** be true. Ⓐ x represents a negative value in both equations. Ⓑ x represents a positive value in both equations. Ⓒ x represents a positive value in one equation and a negative value in the other equation. Ⓓ The value x represents in Equation 1 is less than the value x represents in Equation 2. Ⓔ The value x represents in Equation 1 is greater than the value x represents in Equation 2.	
2.	**Use the information provided to answer Problems 2 and 3.** Rebecca and Megan are shopping at a store that sells jewelry, scarves, and purses. The cost of all the items at the store include tax. Rebecca buys some scarves that cost \$5 each and 2 purses that cost \$12 each. The cost of Rebecca's total purchase is \$39. What equation can be used to find n, the number of scarves that Rebecca buys? Ⓐ $5 + 24n = 39$ Ⓑ $5n + 24 = 39$ Ⓒ $(24 + 5)n = 39$ Ⓓ $24 \cdot 5 + n = 39$	
3.	Megan buys 3 bracelets and 3 necklaces. Each bracelet costs \$5. Megan pays the clerk \$40 and gets \$4 change. What is the cost, in dollars, of one necklace?	

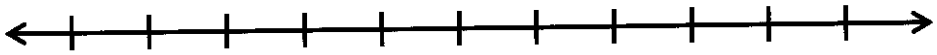
4. A scrapyard had 200 tons of recycled steel. They sold 15 tons per day for several days. If there are fewer than 80 tons left at the scrapyard, how many days, d, have passed?

A. Write an inequality to answer the question.



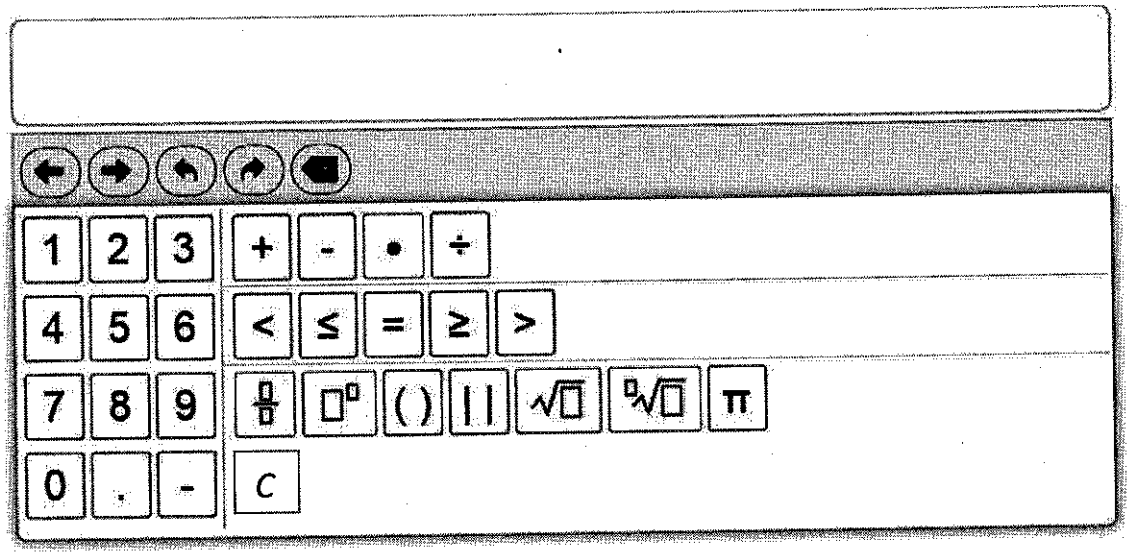
B. Solve the inequality.

C. Graph the solution set of the inequality. What does the solution of your inequality mean in terms of the answer to the question?



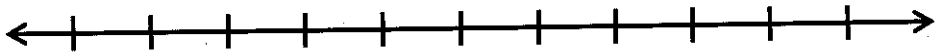
5. When carbon dioxide is frozen, it is called dry ice. In order to keep the carbon dioxide frozen, the temperature has to be $-109.3°$ Fahrenheit or lower. Fahrenheit is $\frac{9}{5}$ of the Celsius temperature plus 32 degrees.

A. Write an inequality to determine the Celsius temperatures, C, at which dry ice can be kept.

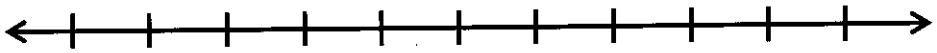


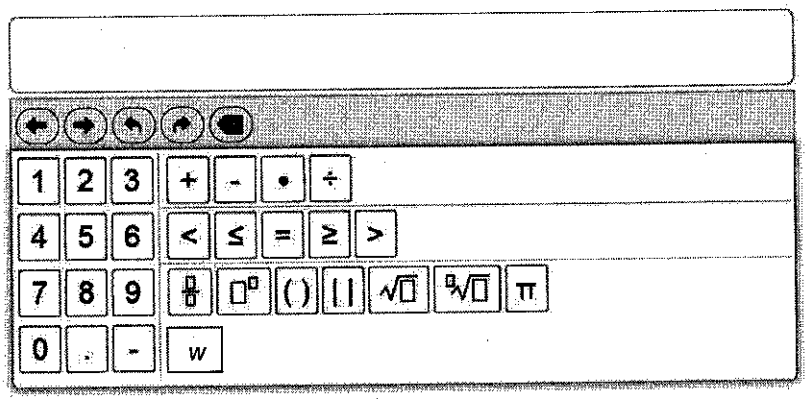
B. Solve your inequality.

C. Scale the number line below and graph the solution to the inequality.



	MAFS.7.EE.2.4-FSA Practice	A CALCULATOR IS ALLOWED
1.	Devon exercised the same amount of time each day for 5 days last week. • His exercise included walking and swimming. • Each day he exercised, he walked for 10 minutes. • He exercised for a total of 225 minutes last week. What is the number of minutes Devon swam **each** of the 5 days last week?	
2.	Jessica rented 1 video game and 3 movies for a total of $11.50. • The video game cost $4.75 to rent. • The movies cost the same amount each to rent. What amount did Jessica pay to rent each movie?	
3.	A. Which of the equations below will answer the following question? Check all that apply. "I think of a number, add 8 and then multiply by 3. My answer is 66. What was my number? ☐ A. $x + 24 = 66$ ☐ B. $3x + 8 = 66$ ☐ C. $3x + 24 = 66$ ☐ D. $3(x + 8) = 66$ B. Find the value of x for the equation(s) for the number described.	

4.	Aaron received a $25 gift card for his birthday. He used it to download a game for $3.99 and some songs for $0.99 each. The following inequality models the relationship among the quantities in this scenario where x represents the number of songs Aaron can afford to download: $25 \geq 0.99x + 3.99$ A. Show all work to solve the inequality. B. Scale the number line below and graph the solution to the inequality. Explain the meaning of your solution within the context of the problem. 
5.	Jonathan wants to save up enough money so that he can buy a new sports equipment set that includes a football, baseball, soccer ball, and basketball. This complete boxed set costs $50. Jonathan has $15 he saved from his birthday. In order to make more money, he plans to wash neighbors' windows. He plans to charge $3 for each window he washes, and any extra money he makes beyond $50 he can use to buy the additional accessories that go with the sports box set. A. Write inequality that represents the number of windows, w, Jonathan can wash in order to save at least the minimum amount he needs to buy the boxed set.

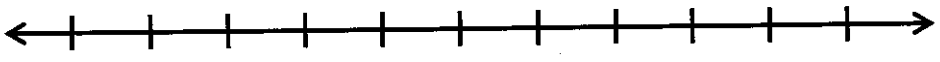


B. Solve the inequality.

C. What is a realistic number of windows for Jonathan to wash? How would that be reflected in the graph?

Write your answer in the space provided.

D. Scale the number line below and graph the solutions to the inequality.



MAFS.7.G.1.1

A CALCULATOR IS ALLOWED

Use the information provided to answer Questions 1 and 2.

The scale on a map shows that 5 centimeters = 2 kilometers.

1. **What number of centimeters on the map represents an actual distance of 5 kilometers?**

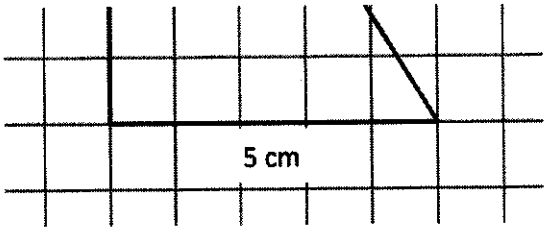
2. **What is the actual number of kilometers that is represented by 2 centimeters on the map?**

Many supersonic jet aircraft in the past have used triangular wings called delta wings. Below is a scale drawing of the top of a delta wing.

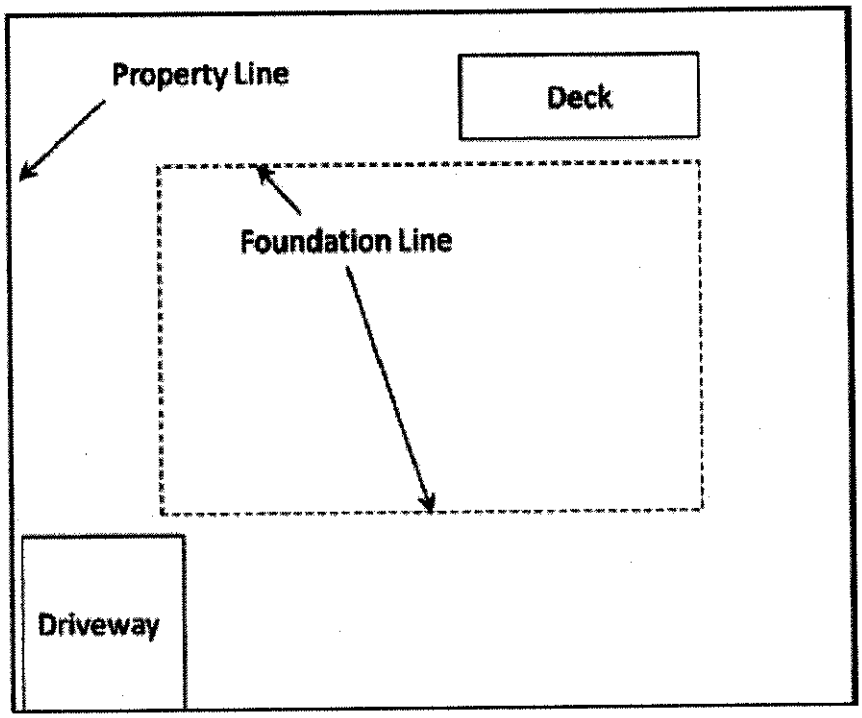
Scale: 2 centimeters (cm) in the drawing = 192 cm on the actual wing.

3. **What is the length of the actual wing?**

4. **What is the area of the actual wing?**



5. Over the break, your uncle and aunt ask you to help them cement the foundation of their newly purchased land and give you a top-view blueprint of the area and proposed layout. A small legend on the corner states that 4 inches of the length corresponds to an actual length of 52 feet.

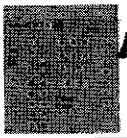


A. What is the scale factor?

B. If the dimensions of the foundation on the blueprint are 11 inches by 13 inches. What are the actual dimensions in feet?

C. You're asked to go buy bags of dry cement and know that one bag covers 350 square feet. How many bags do you need to buy to finish this project?

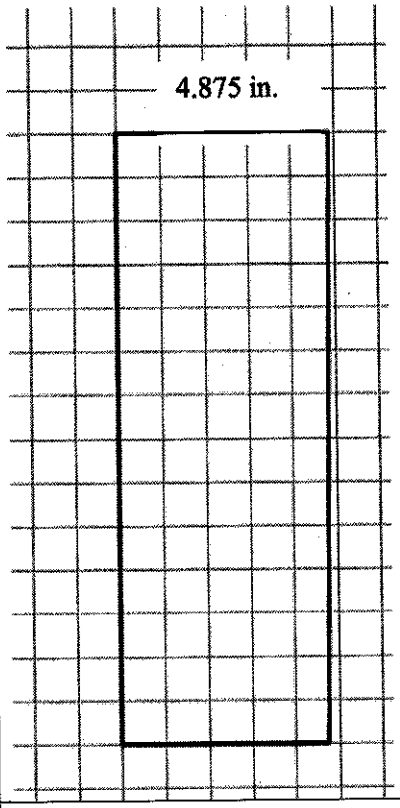
MAFS.7.G.1.1-FSA Practice



A CALCULATOR IS ALLOWED

1. Racquel drew a picture of her school. She used the scale 1 cm : 3 m. Her drawing is 61 cm long. What is the length, in meters, of the actual school?

2. Each solar array wing on the International Space Station measures 39 feet by 112 feet. The scale drawing of a solar array wing shown below was made using a scale of 1 inch: 8 feet.



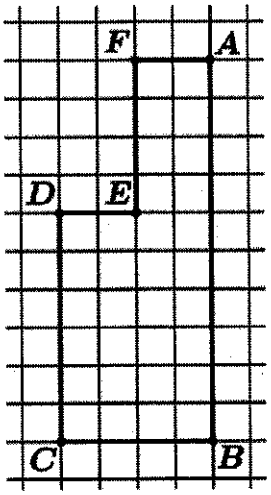
Write the ratio of the area of the wing in the drawing (square inches) to the area of an actual solar array wing (square feet) as a unit fraction.

3. Explain the relationship between your answer to Question 2 and the scale of the drawing.

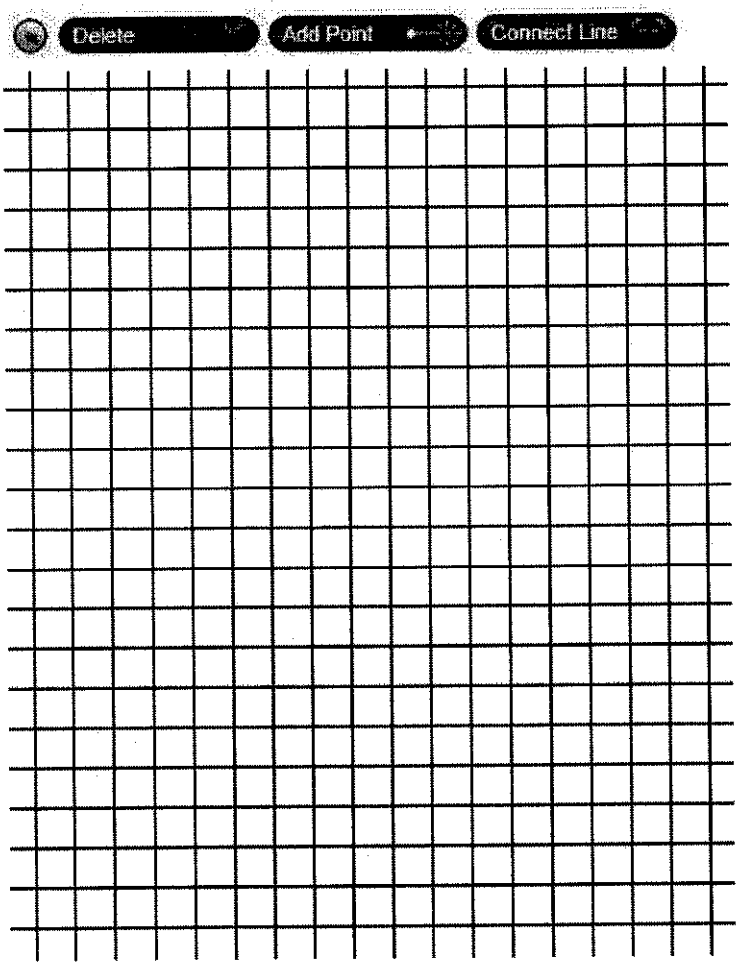
4. A landscape designer drew a blueprint of a garden she is designing for a client. The length of each square on her current grid is 1 centimeter (cm) and represents a length of 10 feet (ft) in the actual garden.

Maintaining the same actual garden dimensions, redraw the blueprint so that 1 cm represents a length of 5 ft in the actual garden.

1 cm:10 ft



1 cm:5 ft

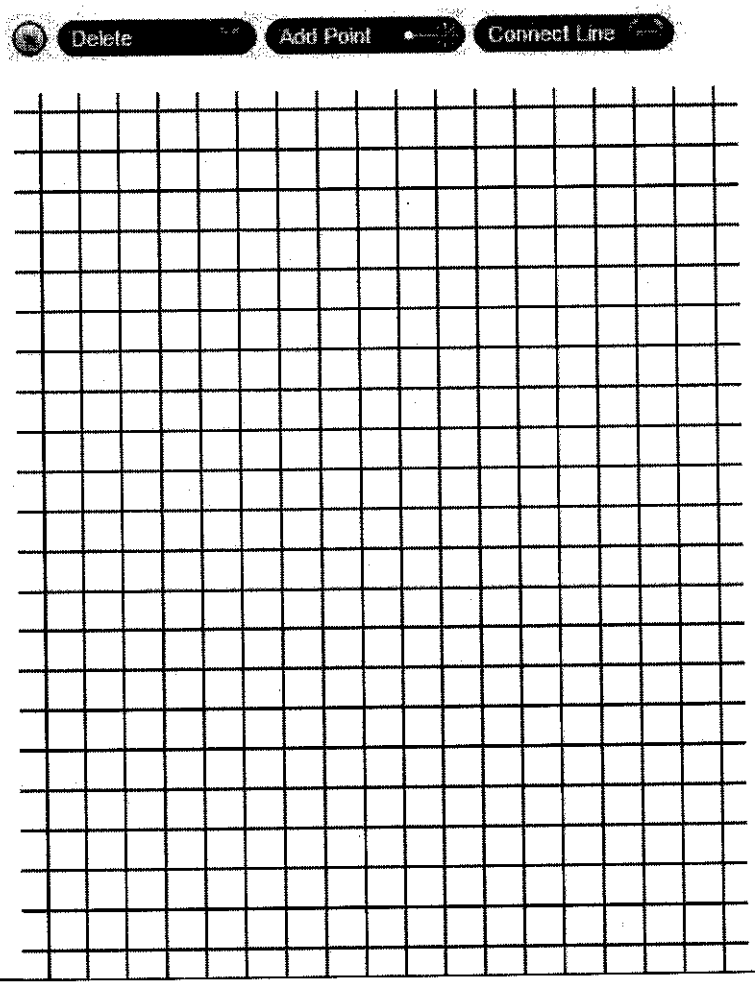


5. How did the new scale change the length of each side of the figure in the blueprint?

Neutral-Questions for this standard may or may not allow the use of a calculator.

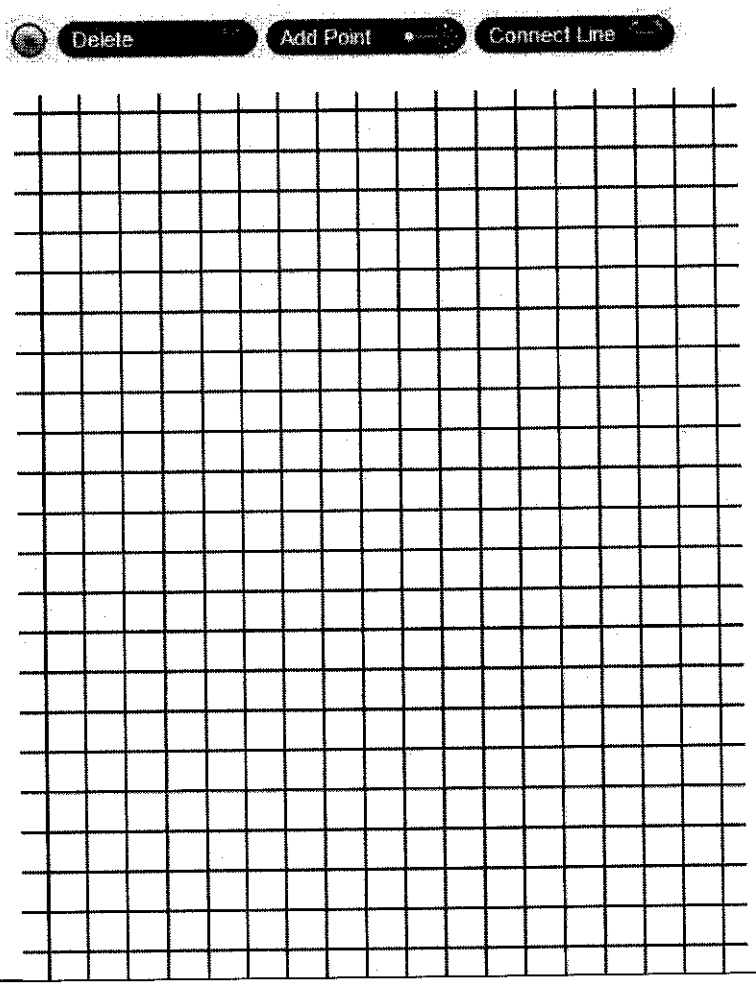
MAFS.7.G.1.2

1. If possible, draw and label triangle *ABC* so that $\angle A$ measures 110°, $\angle B$ measures 30°, and $\angle C$ measures 40°.



2. Is it possible to draw another triangle so that the angle measures are the same as in the triangle above but the lengths of the sides are different from those in the triangle above? Explain.

3. If possible, draw and label triangle *DEF* so that side $\overline{DE}$ is 1½ inches long, side $\overline{EF}$ is 2 inches long, and the measure of the included angle, $\angle E$, is 100°.



4. Is it possible to draw another triangle so that one side is 1½ inches long, another side is 2 inches long, and the measure of the included angle is 100° while the remaining side and angles have measures different from those of triangle *DEF*? Explain.

5. Determine if each set of lengths can be used to construct a triangle. If not, explain why not.

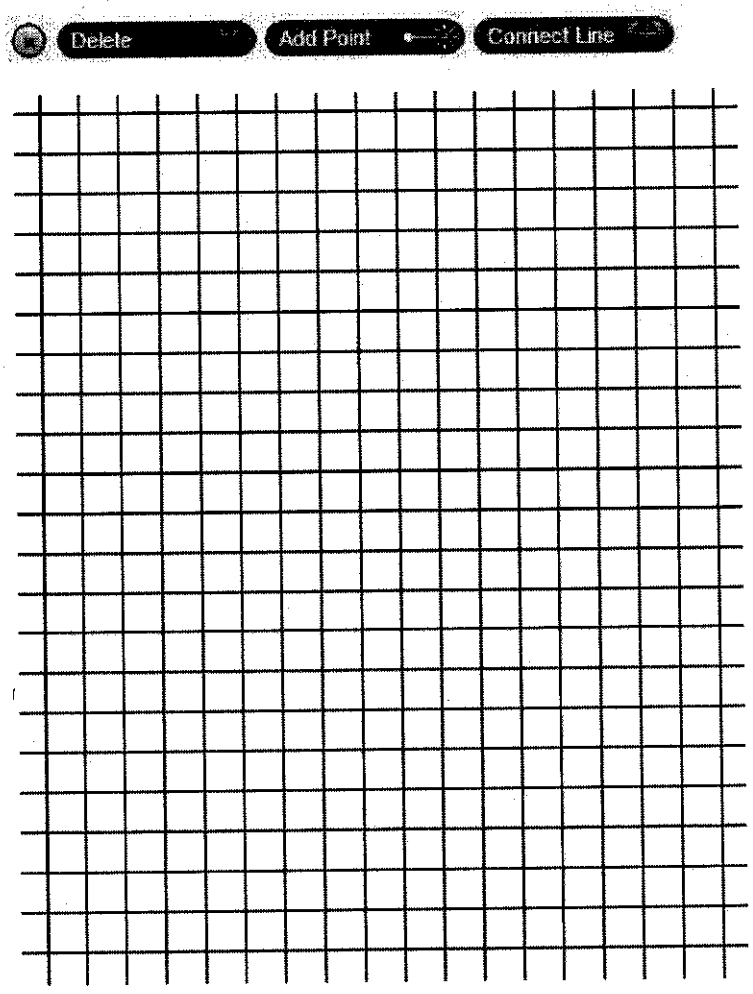
A. 5 cm, 8 cm, 12 cm	☐	☐
B. 12 in., 12 in., 12 in.	☐	☐
C. 3 ft, 6 ft, 10 ft	☐	☐

In general, what must be true of three lengths in order for them to construct a triangle?

Neutral-Questions for this standard may or may not allow the use of a calculator.

MAFS.7.G.1.2-FSA Practice

1. If possible, draw and label triangle *ABC* so that side $\overline{AB}$ is 4 centimeters (cm) long, side $\overline{BC}$ is 7 cm long, and side $\overline{CA}$ is 9 cm long.

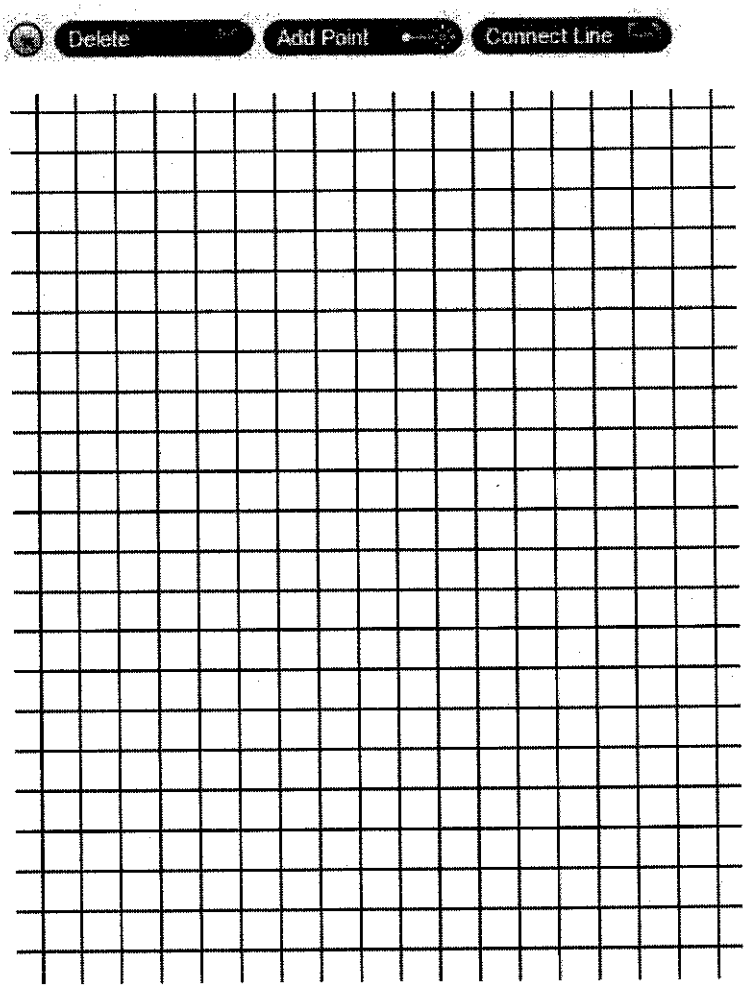


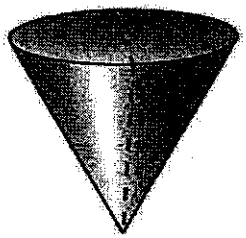
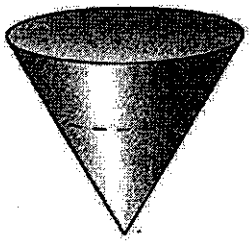
2. Is it possible to draw another triangle so that the sides are 4 cm, 7 cm, and 9 cm in length while the angles have different measures from those of triangle *ABC*? Explain.

3. Discuss why it is, or is not possible to create a triangle with the given side lengths.

		Is it possible? Explanation:
A.	10,7,2 cm	
B.	3,4,5 cm	
C.	8,3,11 cm	

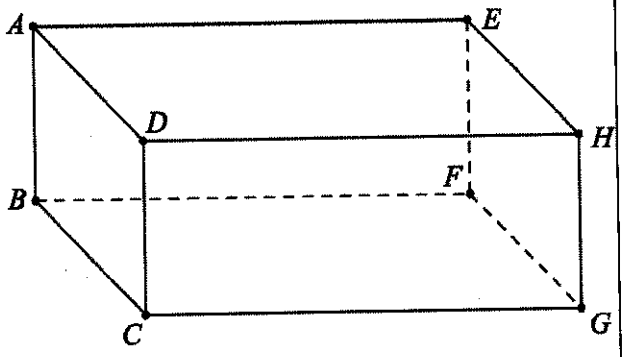
4. If you could change the length of the shortest side in part A, what is the maximum integer length it could be to form a triangle? Draw a picture or diagram to explain your reasoning.



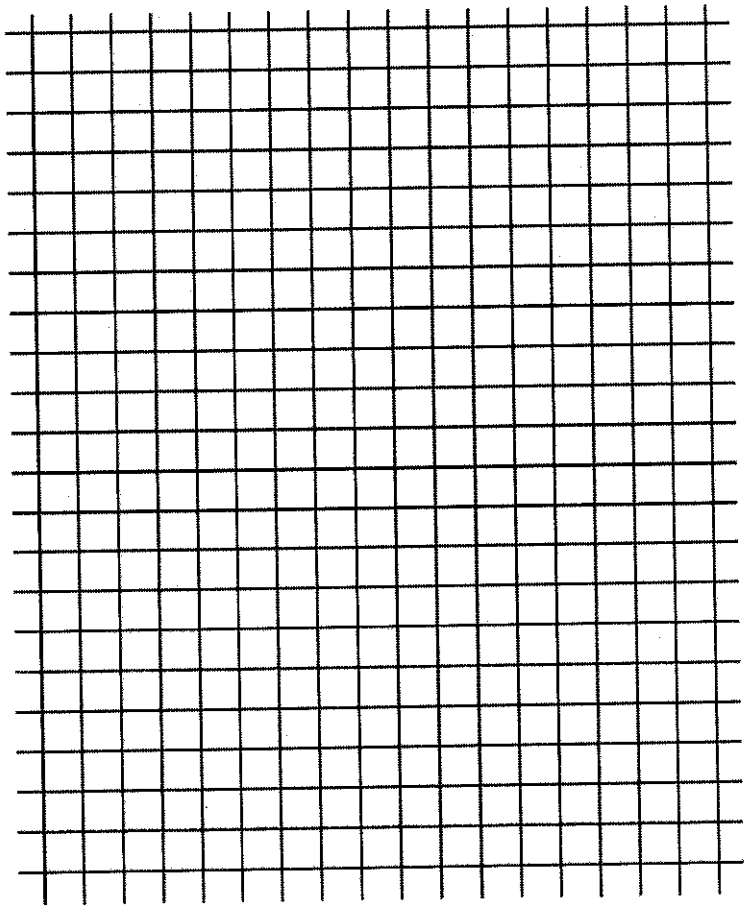
	MAFS.7.G.1.3	**Neutral-Questions for this standard may or may not allow the use of a calculator.**
1.	Misha has a cube and a right square pyramid that are made of clay. She placed both clay figures on a flat surface. Misha will make slices through each figure that are parallel and perpendicular to the flat surface. Which statements are true about the two-dimensional plane sections that **could** result from one of these slices? Select **all** that apply. Ⓐ A plane section that is triangular could result from one of these slices through the cube. Ⓑ A plane section that is square could result from one of these slices through the cube. Ⓒ A plane section that is rectangular but not square could result from one of these slices through the cube. Ⓓ A plane section that is triangular could result from one of these slices through the pyramid. Ⓔ A plane section that is square could result from one of these slices through the pyramid. Ⓕ A plane section that is rectangular but not square could result from one of these slices through the pyramid.	
2.	What two-dimensional shapes appear if you slice a cone as shown on each figure?  Vertical cut  Horizontal cut Write your answer in the space provided.	

3. The figure shown to the right is a right rectangular prism.
Sketch the two-dimensional plane figure that results from making a horizontal slice, parallel to base *BCGF*. Describe how the dimensions of the cross-section compare to the dimensions of the prism.

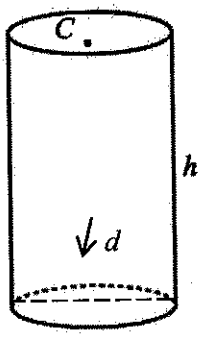
$\overline{BC} = 6\ units, \overline{CG} = 10\ units, \overline{DC} = 4\ units$



Delete Add Point Connect Line



4. Use the cylinder with height, $h=7$ *units*, center of base, C, and diameter, $d=4$ *units*, to answer the following questions:



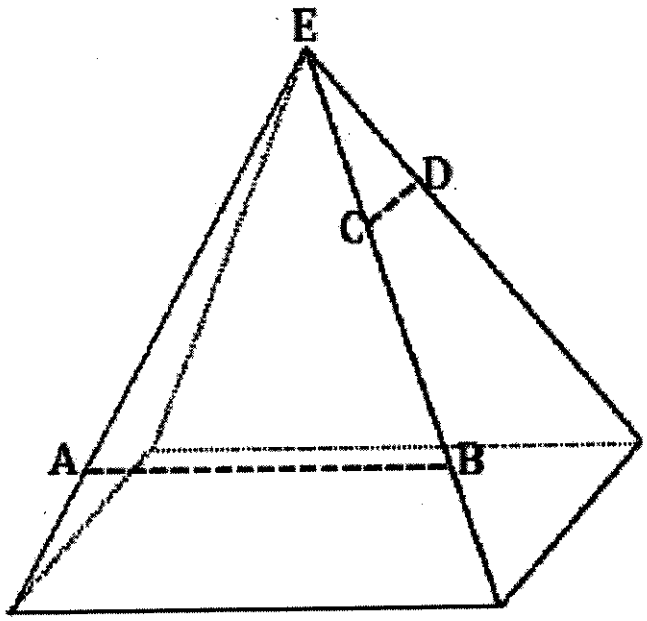
Describe the two-dimensional plane figure that results from making a horizontal slice, parallel to the base and how the dimensions of the cross-section compare to the dimensions of the cylinder.

Write your answer in the space provided.

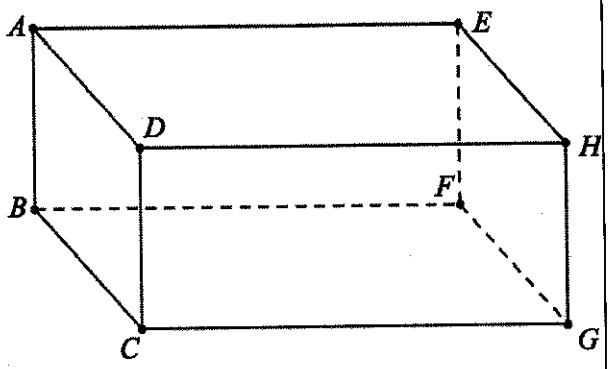
	MAFS.7.G.1.3-FSA Practice	**Neutral-Questions for this standard may or may not allow the use of a calculator.**

1. Three vertical slices perpendicular to the base of the right rectangular pyramid are to be made at the marked locations: (1) through AB, (2) through CD, and (3) through vertex E .

   Based on the relative locations of the slices on the pyramid, make a reasonable sketch of each slice. Include the appropriate notation to indicate measures of equal length.

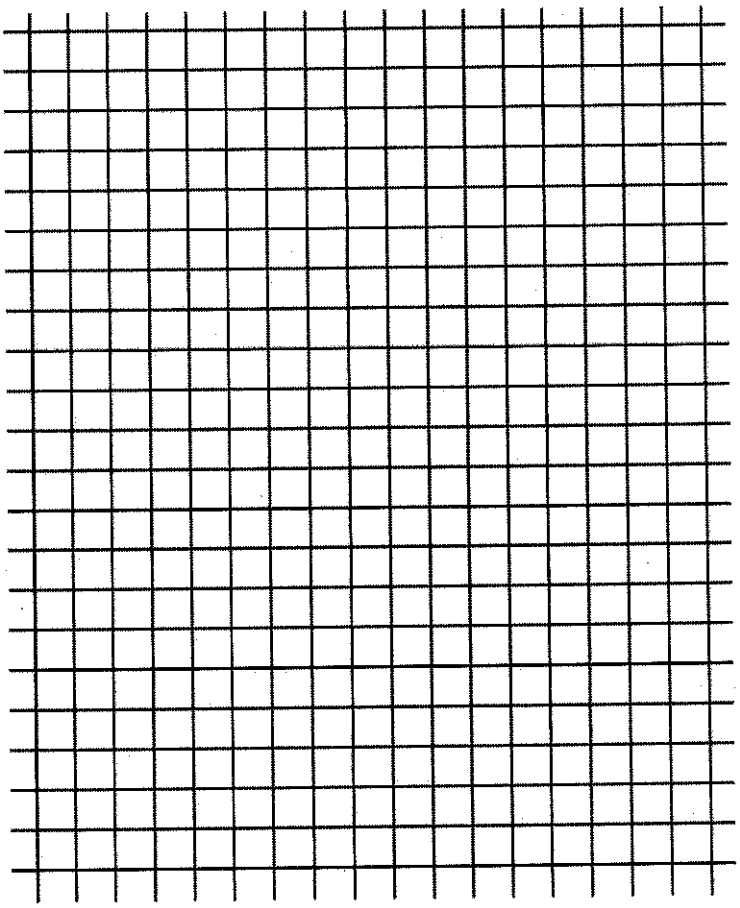


2. Sketch the two-dimensional plane figure that results from making a vertical slice, perpendicular to base *BCGF*. Describe how the dimensions of the cross-section compare to the dimensions of the prism.



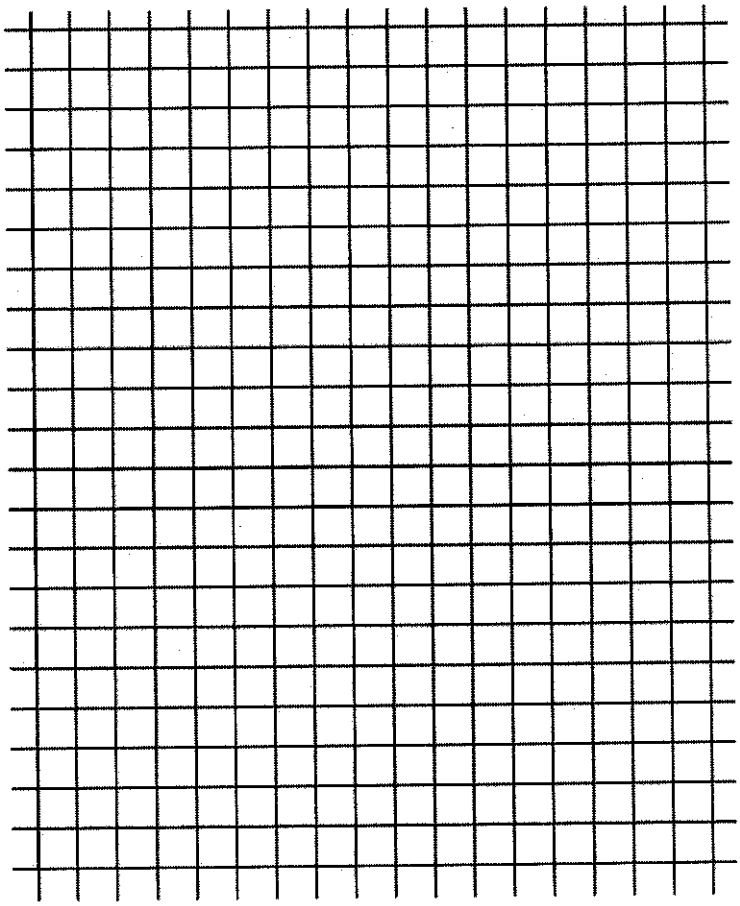
$\overline{BC} = 6\ units, \overline{CG} = 10\ units, \overline{DC} = 4\ units$

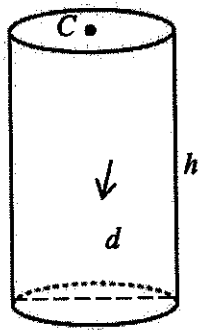
Delete Add Point Connect Line



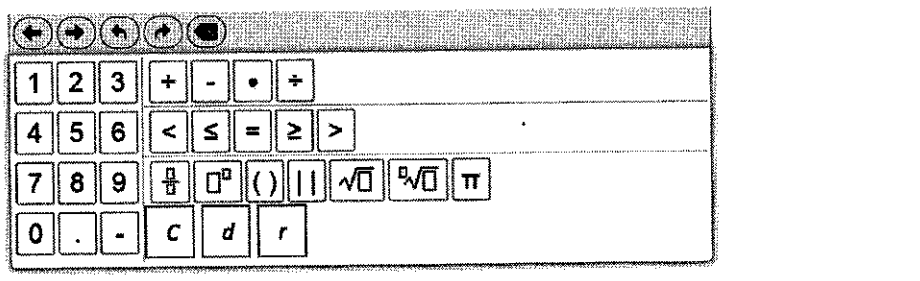
3. Use the cylinder with height, $h=7$ *units*, center of base, C, and diameter, $d= 4$ *units*, to answer the following questions:

Sketch the two-dimensional plane figure that results from making a vertical slice, perpendicular to the base, through its center, C. Describe how the dimensions of the cross-section compare to the dimensions of the cylinder.

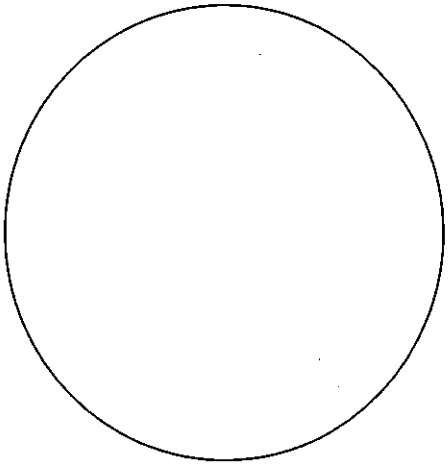




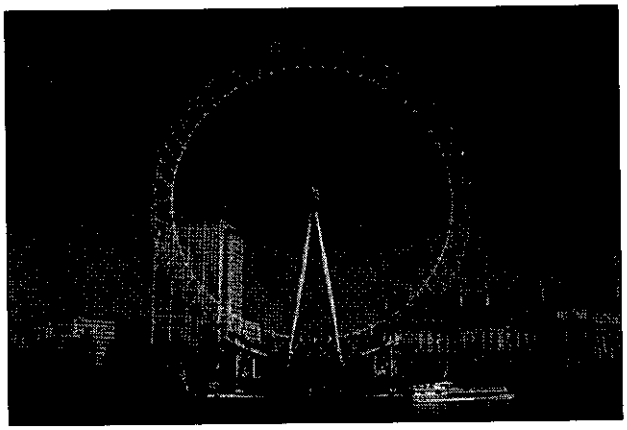
4.	How would the two-dimensional plane figure that results from making a vertical slice, perpendicular to the base, not through the center of the base, compare to the vertical slice created in number 3?

	MAFS.7.G.2.4	A CALCULATOR IS ALLOWED
1.	Use the information provided to answer Part A and Part B. A circular mirror has a diameter of 12 inches. **Part A** What is the area, in square inches, of the mirror? Ⓐ 6π Ⓑ 12π Ⓒ 36π Ⓓ 72π **Part B** A circular frame that is 3-inches wide surrounds the mirror. What is the combined area, in square inches, of the circular mirror and the frame? Ⓐ 9π Ⓑ 18π Ⓒ 54π Ⓓ 81π	
2.	A. State the formula(s) for finding the circumference of a circle. Write each answer on a separate line.  B. Explain what each symbol in the formula represents.	

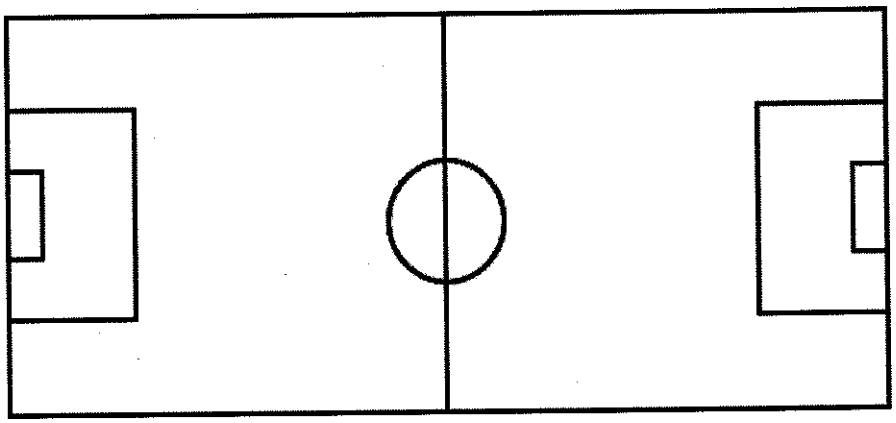
C. On the diagram below, draw and label the dimensions represented by the variable(s) in the formula.



3. The London Eye is a giant Ferris wheel on the south bank of the river Thames in London, England. The height of the entire structure, including the support frame, is 135 meters. The wheel has a diameter of 120 meters. Find the circumference of the wheel.

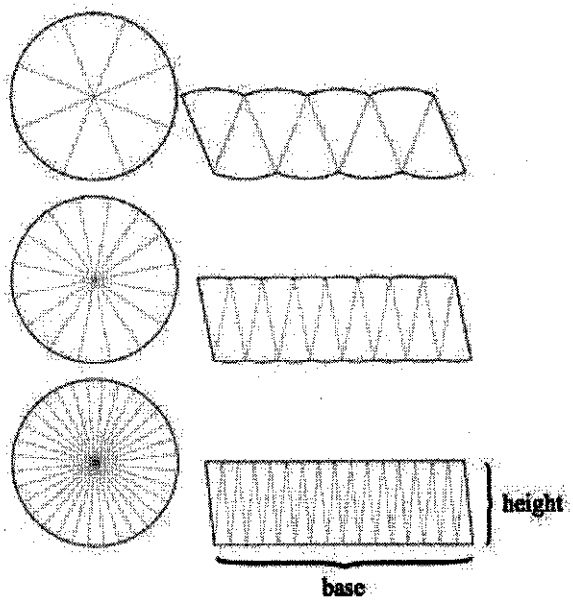


4. The center circle of a soccer field prohibits a defender from being near the ball at the start or restart of a soccer game. On a professional soccer field this circle is 20 yards in diameter. Find the area of this circle. Show work or explain how you found your answer.



5. The area of a circle can be divided into equal pieces called sectors that can be rearranged to make a new shape with the same area.

As the number of sectors increases, the sectors get smaller and smaller, and the new shape comes closer and closer to becoming a rectangle:



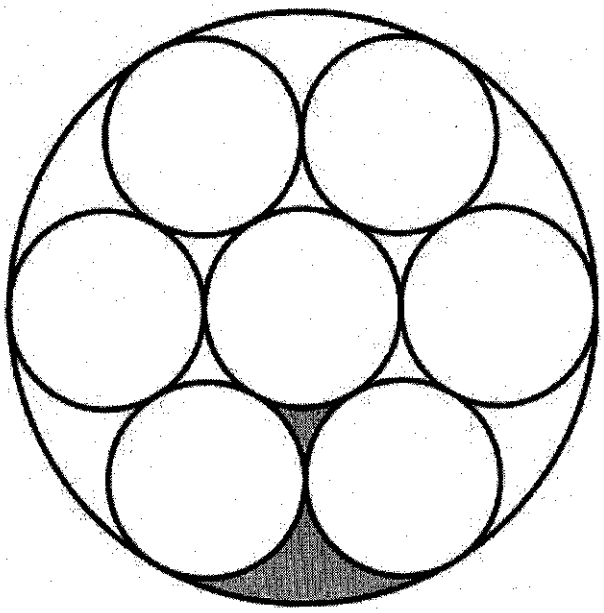
A. The height, h, of the rectangular shape is the same as the __?__ of the original circle.

$h =$ _____

B. The base, b, of the rectangular shape is what fraction of the circumference, C, of the original circle?

$b =$ _____ $\times C$

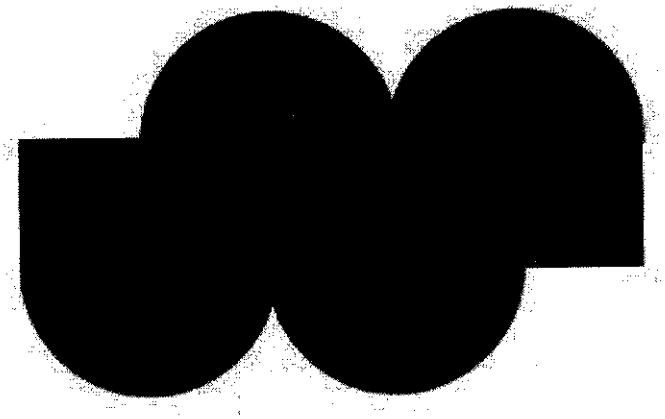
C. Write an equation for the area of the rectangular shape using your representations from Parts A and B.

	MAFS.7.G.2.4-FSA Practice	**A CALCULATOR IS ALLOWED**
	The figure below is composed of eight circles, seven small circles and one large circle containing them all. Neighboring circles only share one point, and two regions between the smaller circles have been shaded. Each small circle has a radius of 5 cm. 	
1.	Calculate the area of the large circle.	
2.	Calculate the area of the shaded part of the figure.	

3. The number π can be defined as the circumference of a circle with diameter 1 (unit). Using your knowledge about circles (that is, *without measuring*), complete the following table. Explain how you know the circumferences of the different circles.

Diameter of Circle (inches)	Circumference of Circle (inches)	$\frac{\text{Circumference of Circle}}{\text{Diameter of Circle}}$
1		
2		
3		
$\frac{1}{2}$		

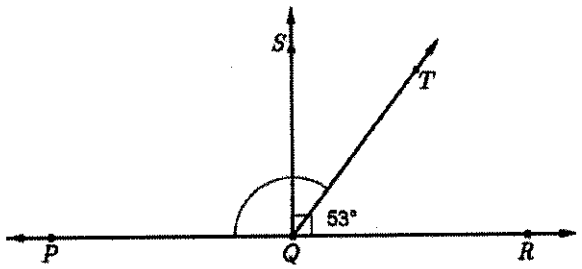
4. Find the area and the perimeter of the figure below. The figure is composed of small squares with a side-length of 1 unit and curves that are an arc of a circle.



MAFS.7.G.2.5

A CALCULATOR IS ALLOWED

1.



A. Write and solve an equation to find $m\angle PQT$, where $x = m\angle PQT$.

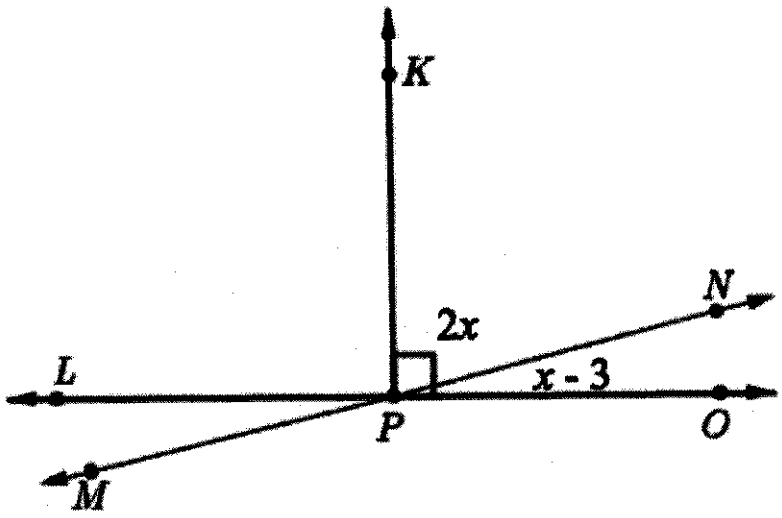
B. Solve your equation.

2.

A. Write an equation to find the $m\angle SQT$, where $x = m\angle SQT$.

B. Solve your equation.

3.



Write and solve an equation to find x. Show your work.

4. What is $m\angle KPN$? Show your work.

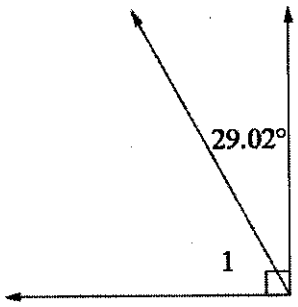
5. What is $m\angle MPL$? Explain how you know.

Write your answer in the space provided.

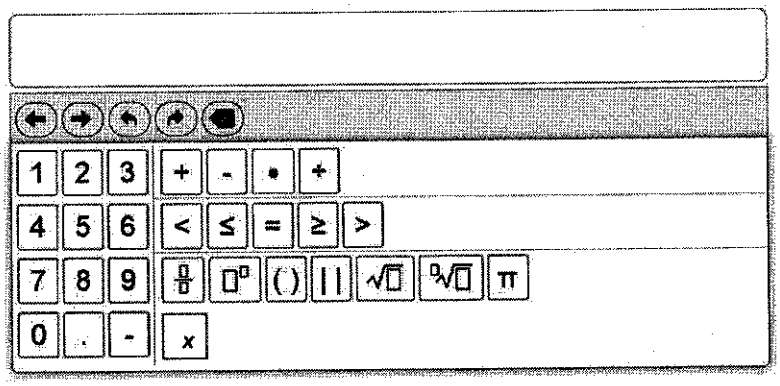
MAFS.7.G.2.5-FSA Practice

A CALCULATOR IS ALLOWED

1.

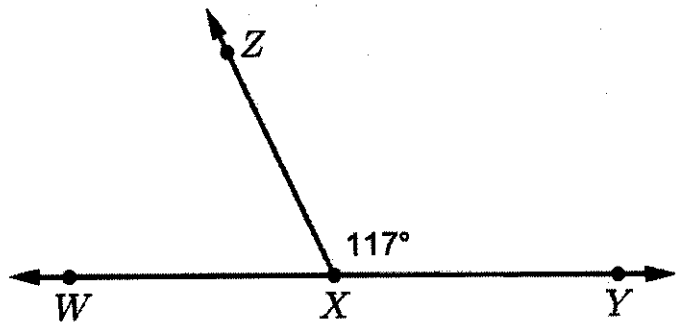


A. Write and solve an equation to find $m\angle 1$, where $x = m\angle 1$.

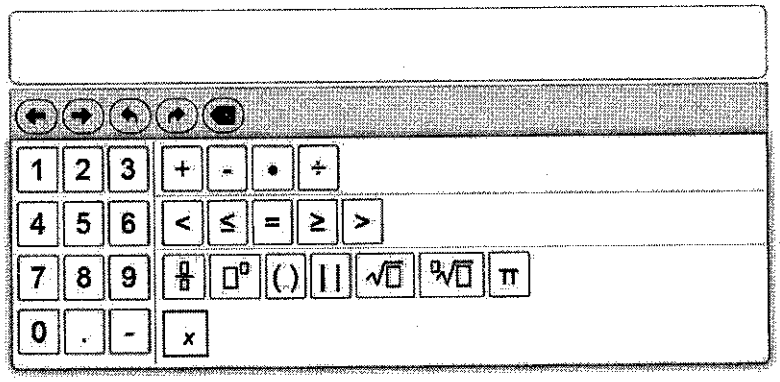


B. Solve your equation.

2. Points *W*, *X*, and *Y* are collinear (that is, on the same line). Write and solve an equation to find $m\angle WXZ$.

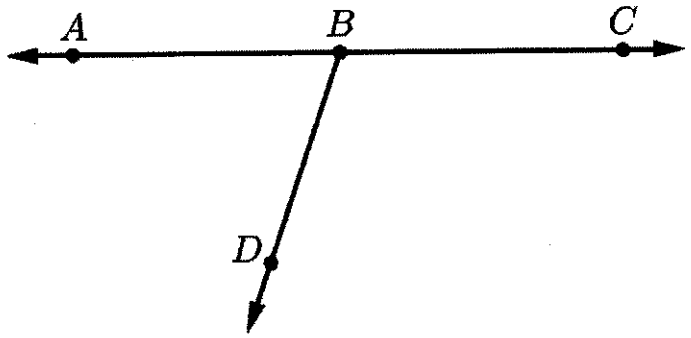


A. Write an equation to find the $m\angle WXZ$, where $x = m\angle WXZ$.

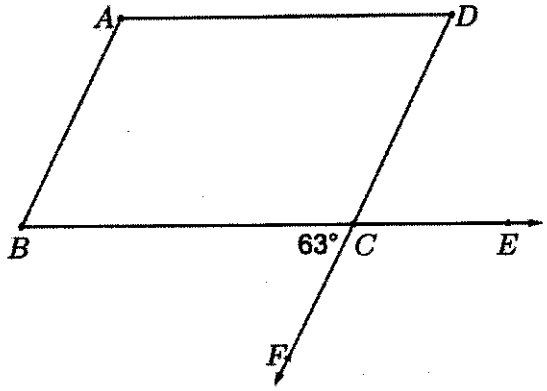


B. Solve your equation.

3. In the diagram below, $\angle ABC$ is a straight angle. The ratio of the measure of $\angle ABD$ to the measure of $\angle CBD$ is 2:3. Write and solve an equation to find $m\angle ABD$.



4. Use the diagram to answer the questions.



A. What is the measure of $\angle DCE$? Write and solve an equation or explain how you know.

B. Write and solve an equation to determine the measure of $\angle FCE$.

5. Which angle has the same measure as $\angle FCE$? Explain how you know.

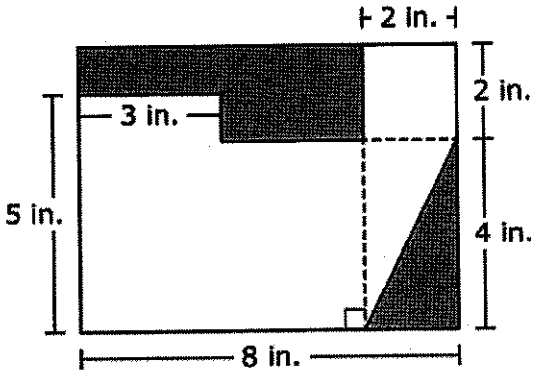
Write your answer in the space provided.

MAFS.7.G.2.6

A CALCULATOR IS ALLOWED

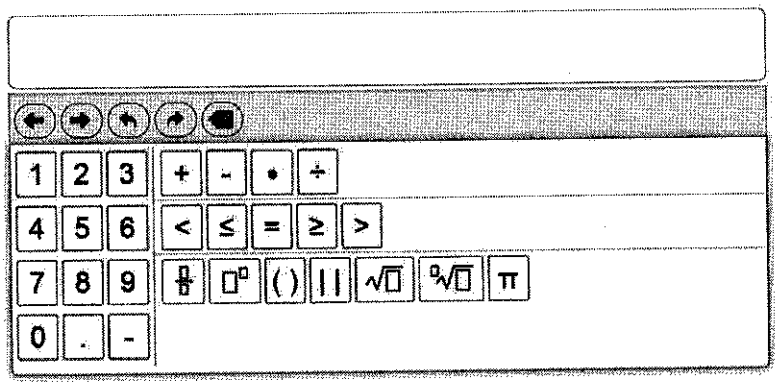
Use the information provided to answer Questions 1 and 2.

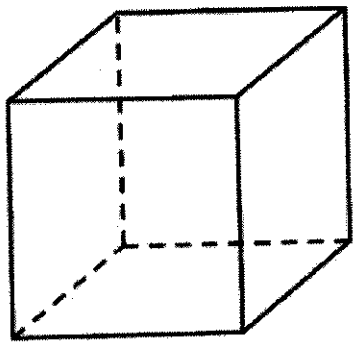
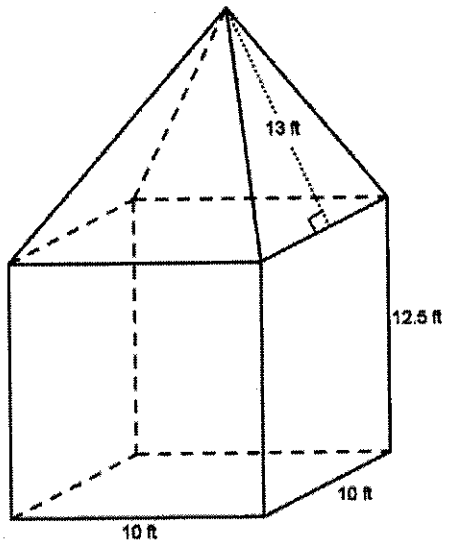
This figure shows two shaded regions and a non-shaded region. Angles in the figure that appear to be right angles are right angles.



1. What is the area, in square inches, of the triangular-shaped region that is shaded in this figure?

2. What is the area, in square inches, of the non-shaded region in this figure?



3.	The length of the edge of a cube is 8.2 cm. Label an edge length on the diagram and then find both the surface area and volume of the cube showing all work neatly and completely. Round to the nearest hundredth if necessary. 
4.	The structure shown below will be built for a carnival. The exterior surfaces are going to be painted. What is the total area of the exterior surfaces that need to be painted? Show all work neatly and completely. 

MAFS.7.G.2.6-FSA Practice

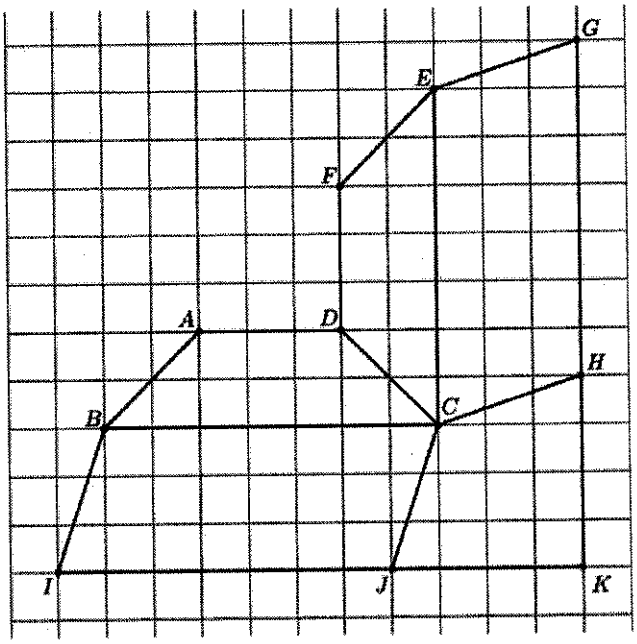
A CALCULATOR IS ALLOWED

1. Tyler and Samantha are building the set for a school play. The design shown below was cut out of wood and now needs to be covered in fabric.

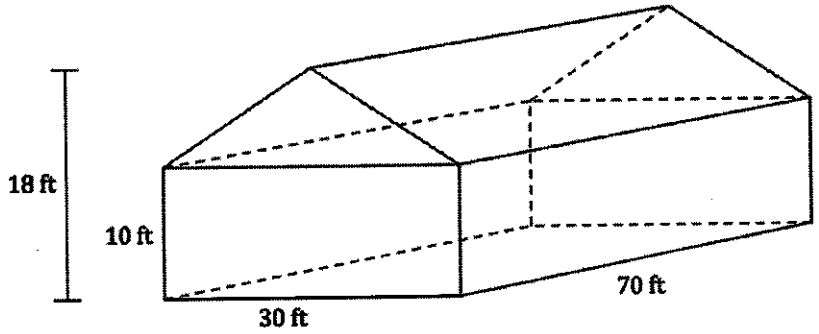
   What is the total area of the wood that needs to be covered?

   Each square in the grid has a length of one foot.

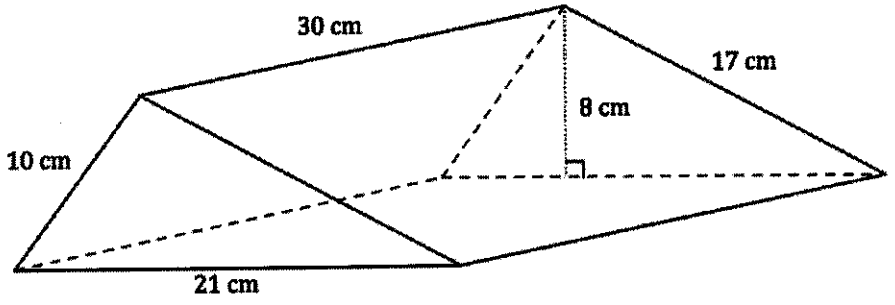
   Show all work neatly and completely to justify your answer.



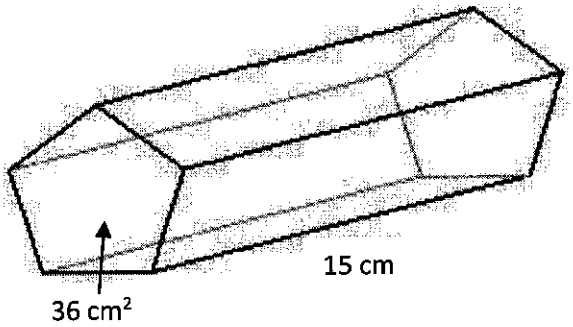
2. Andrea needs a new air conditioning system for her house. An air conditioner needs to be big enough to cool a house, but it will wear out quickly if it is too big. Calculate the volume of the house pictured below to help Andrea choose the right air conditioner.



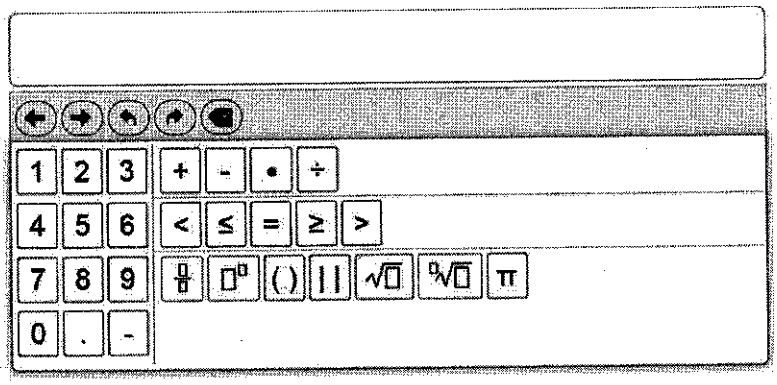
3. Find the surface area of the right triangular prism. Show all work and explain how you found your answer.



4.

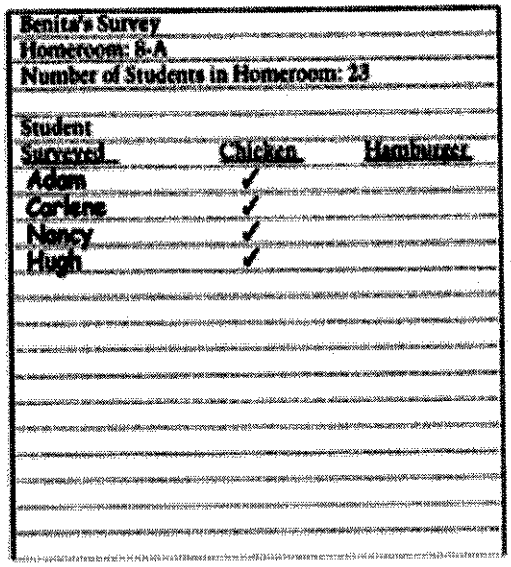


Find the volume of the pentagonal prism if the area of the base is 36 square centimeters and the height of the prism is 15 cm.



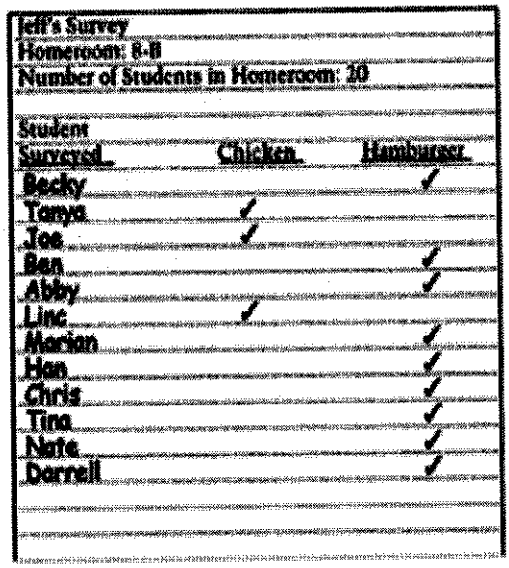
	MAFS.7.SP.1.1	**Neutral-Questions for this standard may or may not allow the use of a calculator.**
1.	Josephine owns a diner that is open every day for breakfast, lunch, and dinner. She offers a regular menu and a menu with daily specials. She wanted to estimate the percentage of her customers who order specials. She selected a random sample of 50 customers who had lunch at her diner during a three-month period. She determined that 28% of these customers ordered from the menu with specials. Which statement about Josephine's sample is true? Ⓐ The sample is the percentage of customers who order daily specials. Ⓑ The sample might not be representative of the population because it only included lunch customers. Ⓒ The sample shows that exactly 28% of Josephine's customers ordered daily specials. Ⓓ No generalizations can be made from this sample, because the sample size of 50 is too small.	
2.	A researcher wants to determine the mean height of 12-year-old boys in the United States. What might he do to gain the information needed to estimate the average height with confidence? Write your answer in the space provided.	
3.	Jeremy was asked to determine the favorite sport of all seventh graders at his school. After asking every student who entered the gym at last night's basketball game what their favorite sport is, Jeremy concluded that the favorite sport of seventh graders at his school is basketball. Is Jeremy's conclusion valid? Why or why not? Write your answer in the space provided.	

4. Benita and Jeff each surveyed some of the students in their eighth-grade homerooms to determine whether chicken or hamburgers should be served at the class picnic. The survey forms are shown below.



Benita's Survey
Homeroom: 8-A
Number of Students in Homeroom: 23

Student Surveyed	Chicken	Hamburger
Adam	✓	
Carlene	✓	
Nancy	✓	
Hugh	✓	



Jeff's Survey
Homeroom: 8-B
Number of Students in Homeroom: 20

Student Surveyed	Chicken	Hamburger
Becky		✓
Tonya	✓	
Joe	✓	
Ben		✓
Abby		✓
Linc	✓	
Marian		✓
Han		✓
Chris		✓
Tina		✓
Nate		✓
Darnell		✓

Benita reported that 100 percent of those in her survey wanted chicken. Jeff reported that 75 percent of those in his survey wanted hamburger.

Which survey, Benita's or Jeff's, would probably be better to use when making the decision about what to serve?

5. Explain why the survey you selected for Question 4 would be a better representation of their homeroom.

	MAFS.7.SP.1.1-FSA Practice	**Neutral-Questions for this standard may or may not allow the use of a calculator.**
1.	Palm Middle School is thinking about changing the flavor of ice cream sold in the cafeteria during lunch. The seventh grade student council members were asked to determine which flavor is the most popular. Of these four sampling methods, which will be most representative of the entire student population? A) Ask only the students who currently buy ice cream during lunch. B) Ask only the seventh grade students. C) Ask every third student who walks into the school. D) Ask every student council member.	
2.	Explain why each method in Question 2 would or would not be a good choice. Write your answer in the space provided.	
3.	In a poll of Mr. Briggs's math class, 67% of the students say that math is their favorite academic subject. The editor of the school paper is in the class, and he wants to write an article for the paper saying that math is the most popular subject at the school. Explain why this is not a valid conclusion and suggest a way to gather better data to determine what subject is most popular. Write your answer in the space provided.	
4.	You and a friend decide to conduct a survey at your school to see whether students are in favor of a new dress code policy. Your friend stands at the school entrance and asks the opinions of the first 100 students who come to campus on Monday. You obtain a list of all students at the school and randomly select 60 to survey. Your friend finds 34% of his sample in favor of the new dress code policy, but you find only 16%. Which do you believe is more likely to be representative of the school population? Explain your choice.	

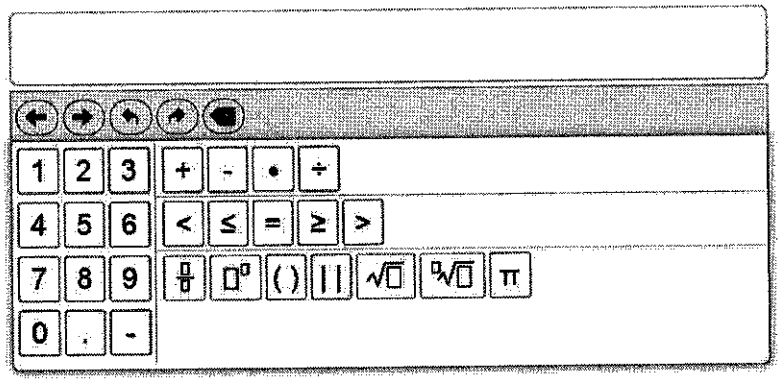
MAFS.7.SP.1.2

A CALCULATOR IS ALLOWED

1. A random sample of the 1,200 students at Moorsville Middle School was asked which type of movie they prefer. The results are compiled in the table below:

Action	Comedy	Historical	Horror	Mystery	Science Fiction
15	12	3	10	4	6

Use the data to estimate the total number of students at Moorsville Middle school who prefer horror movies.



2. Suppose another random sample of students were drawn for Question 1. Would you expect the results to be the same? Explain why or why not.

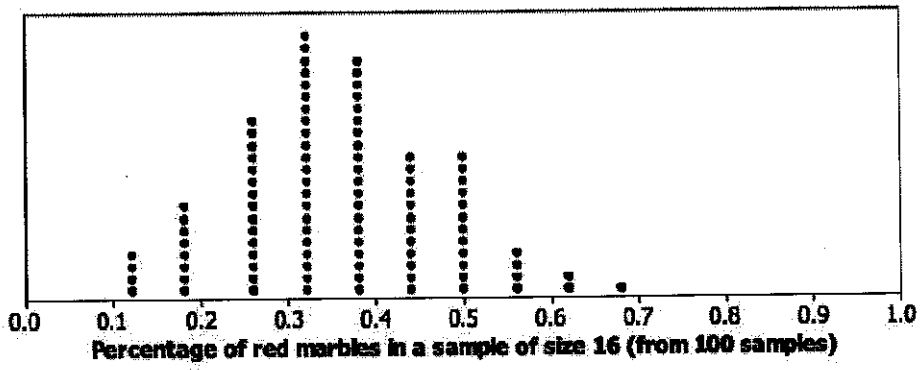
Write your answer in the space provided.

Use the following data for Questions 3, 4, and 5.

Any guest who makes an estimate that is within 9 percentage points of the true percentage of red marbles in the jar wins a prize, so any estimate from 24.6% to 42.6% will be considered a winner. To help with the estimating, a guest is allowed to take a random sample of 16 marbles from the jar in order to come up with an estimate. (Note: When this occurs, the marbles are then returned to the jar after counting.)

One of the hotel employees who does not know that the true percentage of red marbles in the jar is 33.6% is asked to record the results of the first 100 random samples. A table and dot plot of the results appears below.

Percentage of red marbles in the sample of size 16	Number of times the percentage was obtained
12.50%	4
18.75%	8
25.00%	15
31.25%	22
37.50%	20
43.75%	12
50.00%	12
56.25%	4
62.50%	2
68.75%	1
Total:	100



For example, 15 of the random samples had exactly 25.00% red marbles; only 2 of the random samples had exactly 62.50% red marbles, and so on.

3. A. Assume that each of the 100 guests who took a random sample used their random sample's red marble percentage to estimate the whole jar's red marble percentage. Based on the table above, how many of these guests would be "winners"?

B. How many of the 100 guests obtained a sample that was *more than* half red marbles?

4.	Should we be concerned that none of the samples had a red marble percentage of exactly 33.6% even though that value is the true red marble percentage for the whole jar? Explain briefly why a guest can't obtain a sample red marble percentage of 33.6% for a random sample size of 16.
5.	Recall that the hotel employee who made the table and dot plot above didn't know that the real percentage of red marbles in the entire jar was 33.6%. If another person thought that half of the marbles in the jar were red, explain briefly how the hotel employee could use the dot plot and table results to challenge this person's claim. Specifically, what aspects of the table and dot plot would encourage the employee to challenge the claim?

MAFS.7.SP.1.2-FSA Practice

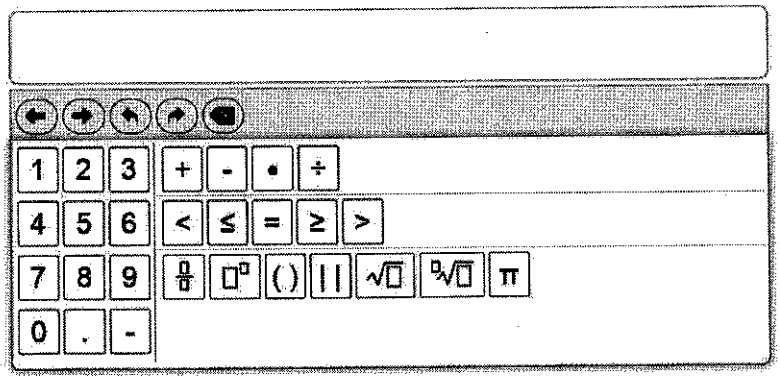
A CALCULATOR IS ALLOWED

1. Mr. Mann, principal at Franklin High School, wondered if the students at his school would prefer longer school days for four days a week or shorter school days for five days a week. The total number of hours spent in school would be the same in either scenario.

   Out of the 2,600 students enrolled in Franklin High School, Mr. Mann randomly interviewed 50 students from three different grade levels. The results are compiled in the chart below:

Groups	Longer days, 4 days a week	Shorter days, 5 days a week
10^{th} grade	32	18
11^{th} grade	26	24
12^{th} grade	34	16

   Estimate the number of students out of the whole school who prefer longer days, four days a week.



2. What might be done to increase the confidence in the estimate for Question 1?

3. Amanda asked a random sample of 40 students from her school to identify their birth month. There are 300 students in her school. Amanda's data is shown in this table.

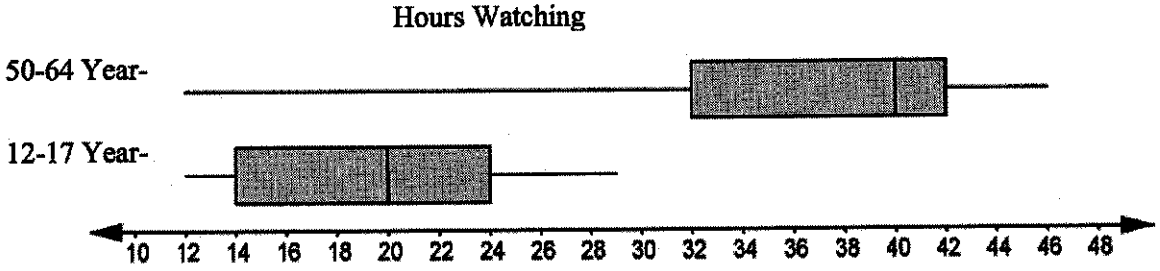
Student Birth Months

Birth Month	Number of Students
January	3
February	0
March	3
April	10
May	4
June	3
July	4
August	3
September	2
October	2
November	3
December	3

Which of these statements is **best** supported by the data?

I. Exactly 25% of the students in Amanda's school have April as their birth month.
II. There are no students in Amanda's school that have a February birth month.
III. There are probably more students at Amanda's school with an April birth month than a July birth month.
IV. There are probably more students at Amanda's school with a July birth month than a June birth month.

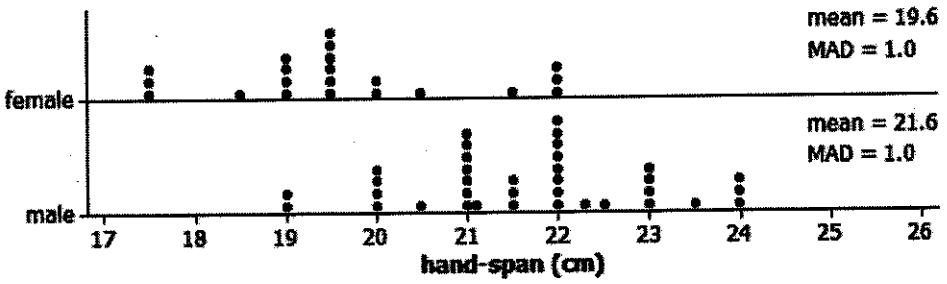
4. Explain why the statement you chose is **best** supported by the data.

	MAFS.7.SP.2.3	**Neutral-Questions for this standard may or may not allow the use of a calculator.**
1.	Data on the number of hours per week of television viewing was collected on a sample of Americans. The graphs below summarize this data for two age groups.  What is the median number of hours of television viewing per week for each age group? 12-17 age group median _____ 50-64 age group median_____	
2.	What is the interquartile range for each age group? 12-17 age group interquartile range_____ 50-64 age group interquartile range _____	
3.	Describe the difference between the medians as a multiple of the interquartile range.	

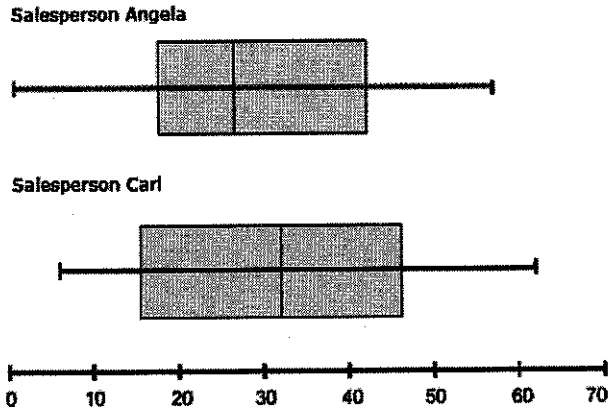
Neutral-Questions for this standard may or may not allow the use of a calculator.

MAFS.7.SP.2.3-FSA Practice

1. Students in a random sample of 57 students were asked to measure their hand-spans (distance from outside of thumb to outside of little finger when the hand is stretched out as far as possible). The graphs below show the results for the males and females.



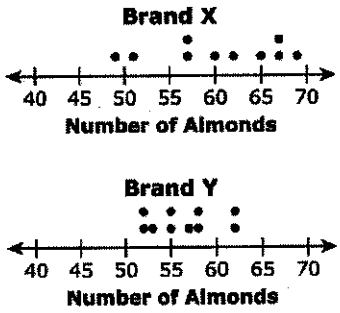
Based on these data, do you think there is a difference between the population mean hand-span for males and the population mean hand-span for females?
Justify your answer.

2.	**The box plots shown compare Angela's vacuum sales to Carl's vacuum sales over a one-month period. Use the box plots shown to answer Questions 2-5.**  Who would you say was a more successful salesperson and why?
3.	What is the *difference* in their median sales?
4.	How much higher was Carl's maximum than Angela's?
5.	Who had a bigger *range* (or variation) in their sales?

MAFS.7.SP.2.4

Neutral-Questions for this standard may or may not allow the use of a calculator.

1. Alexis chose a random sample of 10 jars of almonds from each of two different brands, X and Y. Each jar in the sample was the same size. She counted the number of almonds in each jar. Her results are shown in the plots.



Based on the plots, which statement **best** compares the number of almonds in the jars from the two brands?

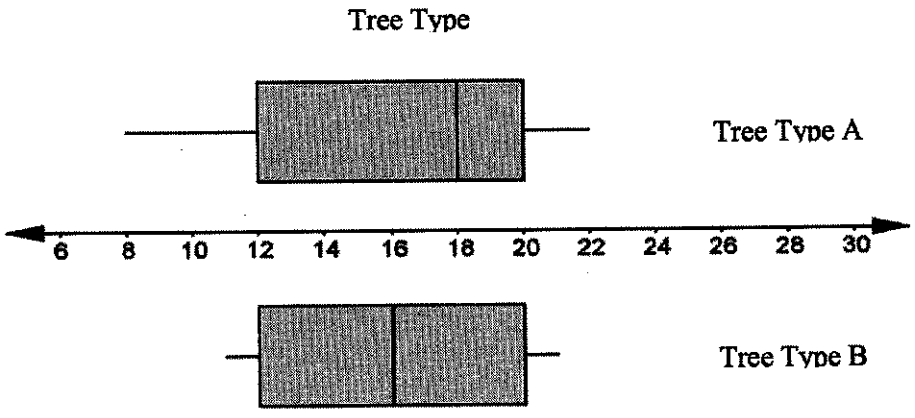
Ⓐ The number of almonds in jars from Brand X tends to be greater and more consistent than those from Brand Y.

Ⓑ The number of almonds in jars from Brand X tends to be greater and less consistent than those from Brand Y.

Ⓒ The number of almonds in jars from Brand X tends to be fewer and more consistent than those from Brand Y.

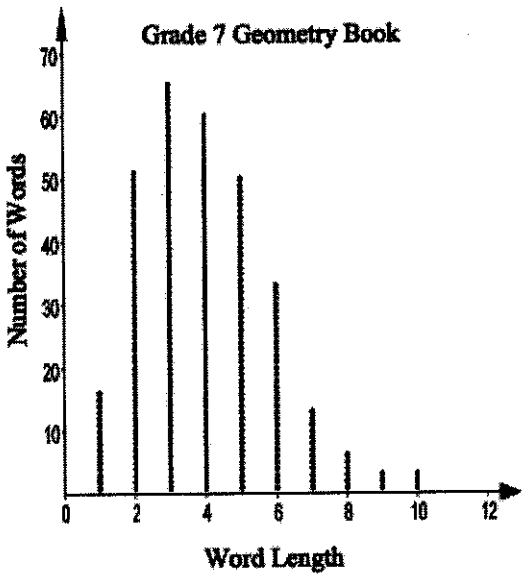
Ⓓ The number of almonds in jars from Brand X tends to be fewer and less consistent than those from Brand Y.

2. In a local park, Jeremy collected data on the heights of two types of trees by measuring the heights of randomly selected trees of these types: Tree Type A and Tree Type B. He displayed each distribution of sample heights in the following box plots:

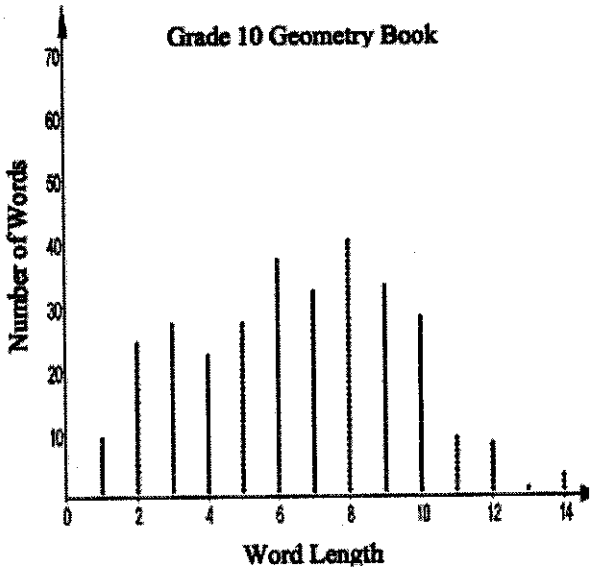


Compare the two distributions. What inferences can you draw about the heights of the two types of trees?

3. Peter is comparing the lengths of words in a seventh grade geometry book to the lengths of words in a tenth grade geometry book for a statistics project. He plotted the length of 300 randomly selected words from each book and calculated the mean and the mean absolute deviation (MAD) for each set of data.



Grade 7 Mean = 4.0
MAD = 1.4



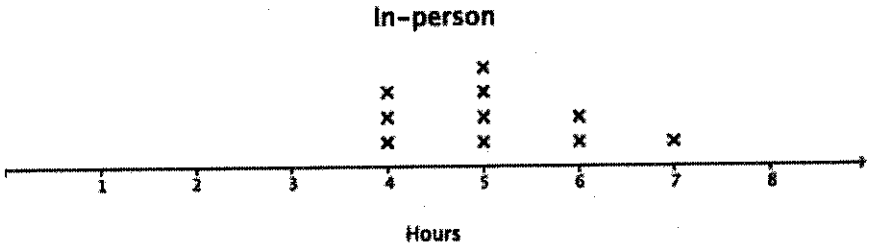
Grade 10 Mean = 6.5
MAD = 2.5

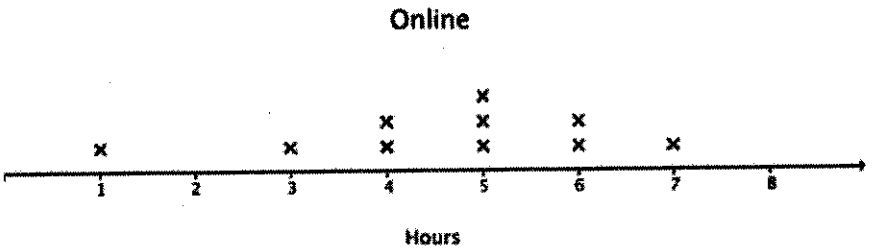
Use the mean and the MAD to compare the two distributions. What inferences can you draw about the lengths of words in the two textbooks?

	MAFS.7.SP.2.4-FSA Practice	**Neutral-Questions for this standard may or may not allow the use of a calculator.**

1. Mr. O is teaching a class that students can access in person or online. Mr. O is curious about how much time his online students spend on his class compared to his in-person students. Mr. O randomly selects 10 in-person students and 10 online students and asks them to record all the time that they spend on his class for one week, yielding the results below.

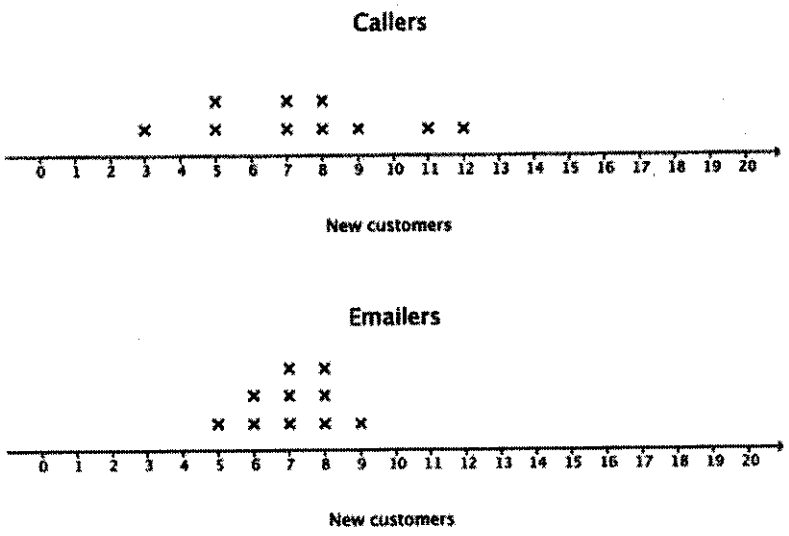
   Based on the center and variability of each distribution, what inferences can you draw about the two populations?





2. Mr. P is a sales executive who is curious about the effectiveness of calling and emailing for acquiring new customers. Mr. P randomly selects two groups of 10 salespeople. For one week, he has the first group do only emailing, and he has the second group do only calling. Each salesperson records the number of new customers they have signed up, yielding the results below.

Based on the center and variability of each distribution, what inferences can you draw about the two populations?



MAFS.7.SP.3.5

Neutral-Questions for this standard may or may not allow the use of a calculator.

1. Which of the following numbers could represent the probability of an event? For each, explain why or why not.

	Probability of an Event?	Yes	No	Explanation
A.	-1			
B.	4.2			
C.	0.6			
D.	0.888			
E.	0			
F.	0.39			
G.	-0.5			

2. What does each probability mean about the likelihood of an event occurring? Is the event likely, unlikely, or neither likely nor unlikely?

   A. 1

   B. $\frac{1}{100}$

   C. 0

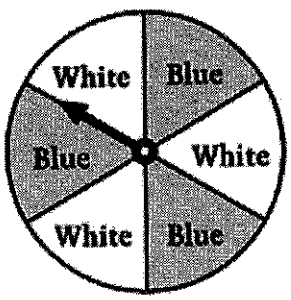
   D. $\frac{1}{2}$

   E. $\frac{9}{10}$

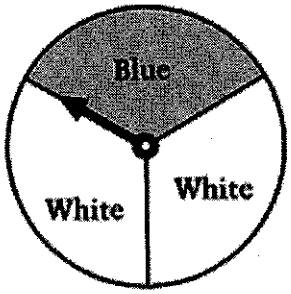
3. **In a gumball machine there are 100 red, 75 blue, 50 green, and 125 yellow gumballs. These 350 gumballs are mixed up. Sam puts money in and one gumball comes out. Which color is most likely to come out?**

   A. Red
   B. Blue
   C. Green
   D. Yellow

4.



Spinner A



Spinner B

Lori has a choice of two spinners. She wants the one that gives her a greater probability of landing on blue.

Which spinner should she choose?

○ Spinner A ○ Spinner B

Explain why the spinner you chose gives Lori the greater probability of landing on blue.

5.

Stickers	Number
Red	|||
Blue	||||
Yellow	||
Green	𝍸 ||

The 16 stickers listed above are placed in a box. If one sticker is drawn from the box, which color is it most likely to be?

A. Red
B. Blue
C. Yellow
D. Green