SPECTRUM® Test Practice
Common Core State Standards Practice Test

Montana Edition
Grade 5

The state of Montana has adopted the Common Core State Standards in English Language Arts and Mathematics.

In addition, Montana has adopted state-specific standards that make up no more than 15% of the total. Some items on this practice test are based on these state-specific standards. These questions are identified by a black circle around the item number, as shown below.

1. = Montana Standards Question

In fifth grade, Montana's standards encourage students:

- To read texts by or about American Indians.

For more information:
Common Core State Standards Initiative:
http://www.corestandards.org/

Montana Office of Public Instruction, Montana Common Core Standards and Assessments:
http://opi.mt.gov/Curriculum/MontCAS/GetReady.php

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MONTANA EDITION
Grade 5 Common Core State Standards Practice Test
ENGLISH LANGUAGE ARTS

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● **Part 1: Reading Literature**

Directions: Read the story. Mark the best answers to the questions that follow.

The Girl Who Climbed Up to the Sky

An Arapaho Story

One fine morning, some girls left their teepees to gather wood. One of the friends was Sapana, the cleverest girl in the village. It was she who noticed a porcupine near a cottonwood tree. She called to the others, "Help me catch the porcupine and we will all share its quills."

The animal began to climb the tree, and Sapana followed. "Hurry," she cried. "We must have the quills to embroider our moccasins." She tried to dislodge the porcupine with a stick, but it climbed higher. "I want those quills," Sapana said. "I'll climb to the top if I have to."

The porcupine climbed higher, and so did Sapana. When she neared the top, she saw something above her, solid like a wall, but shining. It was the sky. Suddenly, she stood in the center of a camp circle. The treetop had vanished. The porcupine had transformed into an ugly old man.

Sapana did not like the porcupine-man, but he spoke kindly. "You are beautiful and industrious," he said. "We work hard here, and I want you to be my wife."

The porcupine-man put her to work right away, scraping and stretching buffalo hides. She wondered if she would ever return home. In the sky world, all was as brown and gray as mud. She missed green trees and grass.

Each day, the porcupine-man went to hunt. Among her many chores, it was Sapana's job to dig for wild turnips. "When you dig," the porcupine-man warned her, "take care not to dig too deep."

One morning, she found an especially large turnip. She managed to use her digging stick to pry it free, and found that it left a hole through which she could look down upon the Earth. Far below, she saw rivers, mountains, and circles of teepees. Sapana knew now why the porcupine-man did not want her to dig too deep.

She covered the hole in the sky and began to plan her escape. Each day, after she scraped and softened buffalo hides to make into robes, some strips of sinew were left over. These she tied together to form a lariat, which she hid beneath her bed.

When she believed the lariat was long enough, she returned to the sky-hole. She laid her digging stick across the opening and tied on one end of the sinew rope. The other end of the rope she tied across her chest. Slowly, she uncoiled the lariat and lowered herself down through the hole.

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ENGLISH LANGUAGE ARTS

● Part 1: Reading Literature (cont.)

In time, just when she could see the tops of the trees, she reached the end of the rope. It was not long enough. She hung there a long time, not knowing what to do. Soon, the rope began to shake. Stones rained down from the sky. She heard the porcupine-man threatening to kill her if she did not climb back up.

Looking around in her helplessness, Sapana spied a buzzard. "Save me!" she cried. "Get on my back," said Buzzard. Sapana moved to the creature's back and let go of the rope. But the girl was too heavy, and the two began to spin downward.

Buzzard saw Hawk. "Hawk!" he called. "Help me take this girl back to her people." Hawk agreed, and flew with Sapana on her back until she began to tire. Then, Buzzard took the girl again. In this way, Sapana was returned to her village.

Sapana's mother was overjoyed to see her daughter alive. Again and again, Sapana recounted her story to the village. Again and again, she told of the kindness shown to her by Buzzard and Hawk.

After that, whenever the people of that tribe went on a big hunt, they always left one buffalo for Buzzard and Hawk to eat.

1. **Why does Sapana dislike the porcupine-man?**

- (A) because he was once an ugly porcupine
- (B) because he lives in the sky
- (C) because he will not give her his quills
- (D) because he makes her work hard and does not allow her to leave

2. **Which words from the story explain why the porcupine-man wants Sapana to be his wife?**

- (F) "You are beautiful and industrious…."
- (G) …"take care not to dig too deep."
- (H) In the sky world, all was brown and gray.
- (J) "I'll climb to the top if I have to."

3. **Why was Sapana's rope too short?**

- (A) because the hole was too deep
- (B) because Sapana knew that Buzzard would help her
- (C) because she wasn't sure how many pieces of sinew she would need
- (D) because the porcupine-man made her work so hard

4. **The people of Sapana's tribe leave meat for Buzzard and Hawk because**

- (F) Sapana was the cleverest girl in the village.
- (G) they are afraid of porcupines.
- (H) those birds once saved a girl from their village.
- (J) those birds can fly to the sky world.

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ENGLISH LANGUAGE ARTS

● Part 1: Reading Literature (cont.)

Directions: Use the story you read on pages 1–2 to choose the best answer for each question.

5. **Which is the best summary of the story?**

(A) A porcupine turns into an ugly old man. He tells Sapana to dig for turnips and scrape buffalo hides. He threatens to kill her if she escapes. Buzzard and Hawk help Sapana.

(B) An Arapaho girl, Sapana, follows a porcupine into the sky. There, the porcupine becomes a man who enslaves Sapana. She manages to escape through a turnip hole using a rope made of buffalo sinew. When the rope runs out, Buzzard and Hawk return the girl to the ground. The story explains why the Arapaho honor Buzzard and Hawk.

(C) The Arapaho people use porcupine quills to embroider moccasins. Porcupines can be hard to catch. Sometimes, they climb into the sky world. The sky world has turnips, buffaloes, and porcupine-men. To escape from the sky, you might have to fly on the back of Buzzard or Hawk.

(D) The Arapaho people leave meat for Buzzard and Hawk because they once helped a girl from their tribe escape the sky world. The girl's mother was overjoyed when she finally returned home.

6. **The overall theme of the story is that**

(F) you might get into trouble if you climb too high.

(G) friends can help you when you are helpless.

(H) in times of trouble, rely on cleverness, resourcefulness, and the help of friends.

(J) you must dig deep to find the answers to your problems.

7. **How does Sapana respond to being trapped in the sky world?**

(A) She accepts her new life.

(B) She works extra hard to please the porcupine-man.

(C) She refuses to dig for turnips and scrape buffalo hides.

(D) She misses her home and plans an escape.

8. **Why does Sapana climb higher than her friends?**

(F) because she wants to see the sky world

(G) because she is the most determined to catch the porcupine

(H) because she knows that Buzzard will save her

(J) because she has been to the sky world before

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ENGLISH LANGUAGE ARTS

● Part 1: Reading Literature (cont.)

Directions: Use the story you read on pages 1–2 to choose the best answer for each question.

9. **How is the sky world different from Earth?**

- (A) The sky world is brown and gray, while the trees and grass on Earth are green.
- (B) The sky world has turnips and buffaloes, but Earth does not.
- (C) The sky world has rivers, mountains, and circles of teepees, but Earth does not.
- (D) Buzzard and Hawk visit sky world, but they do not visit Earth.

10. **Sapana is clever and curious. Do these qualities help her or hurt her?**

- (F) They hurt her when she climbs too high, but help her when she plans her escape.
- (G) They help her when she climbs too high, but hurt her when she is trying to escape.
- (H) They help her catch the porcupine and dig for turnips.
- (J) They hurt her because she climbs too high and gets stuck in the sky world.

11. **The story describes the sky world as *brown and gray as mud.* This is an example of what type of figurative language?**

- (A) metaphor
- (B) personification
- (C) alliteration
- (D) simile

12. **What is the meaning of the underlined word?**

She tried to <u>dislodge</u> the porcupine with a stick.

- (F) entrap
- (G) pull away
- (H) tangle
- (J) poke

13. **In which scene is Sapana in the most danger?**

- (A) climbing the tree
- (B) digging the large turnip
- (C) dangling at the end of the rope
- (D) reuniting with her mother

14. **Which statement represents the porcupine-man's point of view?**

- (F) Let go of the rope and climb on my back.
- (G) I am so glad you made it back home.
- (H) Buzzard and Hawk were very kind to me.
- (J) I am pleased that my wife works so hard.

15. **Which familiar tale has the most in common with this story?**

- (A) "Cinderella"
- (B) "Robin Hood"
- (C) "Jack and the Beanstalk"
- (D) "Peter Pan"

STOP

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● **Part 2: Reading Informational Text**

Directions: Read the texts. Choose the best answers for the questions that follow.

Moon Mystery

On a clear night, go outside and look for the moon. Do the same thing again a week later, and the moon you see will look different. It is the same familiar, rocky sphere that has been circling Earth for millions of years, so why does it always seem to change shape?

Sometimes, the moon is a bright disk that illuminates the night sky. Other times, it is just a sliver of white. Sometimes, the moon can be seen during the day. Other times, it is not visible at all. These different amounts of visibility are called the phases of the moon. They occur because the sun, the moon, and Earth are always moving.

One thing that almost never changes, however, is that the sun lights up one side of the moon. Because we live on the surface of Earth, the moon's appearance changes depending on how much of that illumination we can see. For example, a full moon occurs when the moon and the sun are on opposite sides of Earth and we are able to look directly at the lighted side of the moon.

A new, or dark, moon occurs when the moon and the sun are on the same side of Earth. In this case, we are looking directly at the unlit side of the moon that is facing away from the sun and is in shadow. The other phases occur as the moon orbits Earth and we see more or less of the illuminated half. A half-moon is when the moon is to the side of Earth, and you can see equal amounts of the lit and unlit halves.

A lunar eclipse is the only time the sun's light is prevented from reaching the moon. This occurs when the sun, the moon, and Earth are in a straight line with Earth in the middle. As the moon travels into the darkness of Earth's shadow, it seems as though all or part of it disappears.

A solar eclipse is slightly different. It occurs when the sun, the moon, and Earth are lined up, but the moon is in the middle. Although the sun is many times larger than the moon, it is also much, much farther away. This makes the sun and the moon appear to be the same size. When the moon's path goes in front of the sun, it temporarily blocks the sun and causes a solar eclipse. A solar eclipse is much more rare than a lunar eclipse.

Although there is still some debate, many scientists believe that the moon was once part of Earth. Millions of years ago, something crashed into Earth and broke off a large section of the planet. Gravity kept this huge chunk from floating away into space, and it became our moon. One strong piece of evidence that supports this theory is that the moon is made of the same materials as Earth.

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ENGLISH LANGUAGE ARTS

● **Part 2: Reading Informational Text (cont.)**

A Solar Eclipse in Ancient China

The earliest recorded solar eclipse was in ancient China. The date, often given as October 22, 2134 BC, is not certain. The ancient document *Shu Ching* records that "the Sun and Moon did not meet harmoniously." The story says that two royal astronomers, Hsi and Ho, neglected their duties and failed to predict the event. A common belief was that an eclipse was caused by an invisible dragon devouring the Sun. A custom began of using lots of noise and activity (such as drumming and shooting arrows into the air) to frighten away the dragon and restore daylight. When this eclipse took place, the emperor was caught unprepared. Even though the Sun returned, the angry ruler ordered the astronomers beheaded!

1. **Which statement best explains why the moon does not always look the same?**
   - (A) Sometimes, the moon illuminates the night sky.
   - (B) A lunar eclipse is the only time the sun's light is prevented from reaching the moon.
   - (C) The sun, the moon, and Earth are always moving.
   - (D) The sun lights up the moon.

2. **Which statements best sum up the main ideas of *Moon Mystery*?**
   - (F) The moon seems to change shape. The movement of the sun, the moon, and Earth make the moon look different.
   - (G) Solar eclipses are rare. Lunar eclipses are common.
   - (H) The moon changes shape. The moon has different phases.
   - (J) The moon was once part of Earth. The moon and Earth are made out of the same materials.

3. **What are the positions of the moon, Earth, and sun during a lunar eclipse?**
   - (A) They are in a straight line with the moon in the middle.
   - (B) They are in a straight line with Earth in the middle.
   - (C) They are not in a straight line with the moon in the middle.
   - (D) They are not in a straight line with Earth in the middle.

4. **Which two types of organization are used in *Moon Mystery* and *A Solar Eclipse in Ancient China*?**
   - (F) cause and effect, compare and contrast
   - (G) cause and effect, narrative
   - (H) main idea and details, problem and solution
   - (J) problem and solution, compare and contrast

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ENGLISH LANGUAGE ARTS

● Part 2: Reading Informational Text (cont.)

Directions: Use the texts you read on pages 5–6 to choose the best answer for each question.

5. **What is the difference between our explanation of a solar eclipse and the explanation believed by the ancient Chinese?**

   Ⓐ The ancients blamed astronomers, but we know that Earth blocks the sun.

   Ⓑ The ancients were frightened by an eclipse, but we are not frightened.

   Ⓒ The ancients believed a dragon was devouring the sun, but we know the moon blocks the sun.

   Ⓓ The ancients did not have an explanation for an eclipse, but we have an explanation for an eclipse.

6. **What would not be a good source to find out more about the moon?**

   Ⓕ a Web site about the solar system

   Ⓖ an article about lunar eclipses

   Ⓗ an interview with an astronomer

   Ⓙ a novel about outer space

7. **What evidence supports that the moon was once part of Earth?**

   Ⓐ The moon broke off from Earth millions of years ago.

   Ⓑ We see different phases of the moon at different times.

   Ⓒ Gravity keeps the moon from floating away.

   Ⓓ The moon is made of the same materials as Earth.

8. **After reading both texts, what do you know about solar eclipses?**

   Ⓕ Solar eclipses are different from lunar eclipses.

   Ⓖ Today we understand solar eclipses better than people did in the past.

   Ⓗ Solar eclipses are caused by dragons.

   Ⓙ Ancient people made up stories to explain solar eclipses.

9. **Why did the Chinese emperor have the astronomers killed?**

   Ⓐ He believed they had caused the eclipse.

   Ⓑ They did not warn him about the eclipse.

   Ⓒ They did not make enough noise to scare away the dragon.

   Ⓓ He thought the sun would never return.

10. **Why do the sun and the moon look like they are the same size?**

   Ⓕ They are the same size.

   Ⓖ The sun is closer to Earth than the moon is.

   Ⓗ The moon is closer to Earth than the sun is.

   Ⓙ The moon's path changes as it moves around Earth.

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ENGLISH LANGUAGE ARTS

● Part 2: Reading Informational Text (cont.)

Directions: Use the texts you read on pages 5–6 to choose the best answer for each question.

11. **What is the position of the moon during a solar eclipse?**
    - (A) between Earth and the sun
    - (B) behind Earth
    - (C) to the left of the sun
    - (D) to the right of the sun

12. **What does *lunar* mean?**
    - (F) having to do with Earth
    - (G) having to do with the sun
    - (H) having to do with the moon
    - (J) having to do with the sky

13. **Which statement best explains why we cannot see a new moon?**
    - (A) We are looking directly at the unlit side of the moon that is facing away from the sun and is in shadow.
    - (B) The sun lights up one side of the moon.
    - (C) The moon orbits Earth and we see more or less of the illuminated half.
    - (D) As the moon travels into the darkness of Earth's shadow, it seems as though all or part of it disappears.

14. **Which event is least common?**
    - (F) a new moon
    - (G) a full moon
    - (H) a lunar eclipse
    - (J) a solar eclipse

15. **Choose the best word to complete the sentence.**

    Eclipses are _____; they do not last forever.
    - (A) permanent
    - (B) long-lasting
    - (C) temporary
    - (D) common

16. **Choose the best word to complete the sentence.**

    People who lived long ago in _____ times had a limited understanding of our solar system.
    - (F) current
    - (G) ancient
    - (H) modern
    - (J) contemporary

STOP

ENGLISH LANGUAGE ARTS

● Part 3: Writing

Directions: On a separate piece of paper, write a response to each prompt. Include all the parts in the checklists.

1.   Write an Opinion

Imagine your school has decided to cut each physical education class by 15 minutes in order to allow more time for learning in the classroom. Write a letter to your principal expressing your opinion about the decision.

Checklist:

Read what you wrote. Did you remember to do the following?

	Yes	No
State your opinion.	☐	☐
Include well-organized reasons, facts, examples, and details that support your opinion.	☐	☐
Include words such as *consequently* and *specifically* to link your opinions with reasons.	☐	☐
Write a strong conclusion that summarizes your opinion.	☐	☐

2.   Write to Inform

Write an article for the newspaper providing information about an event that has happened at your school or that will soon happen at your school.

Checklist:

Read what you wrote. Did you remember to do the following?

	Yes	No
Introduce the topic clearly.	☐	☐
Include headings, charts, or illustrations if they will help the reader understand.	☐	☐
Include facts, definitions, examples, and details that are organized logically.	☐	☐
Use words such as *in contrast* and *especially* to link ideas.	☐	☐
Write a concluding statement.	☐	☐

3.   Write a Narrative

Write about a competition in which you have been a participant. Make sure to focus on the action, and explain your thoughts and feelings during the event.

Checklist:

Read what you wrote. Did you remember to do the following?

	Yes	No
Establish the situation and introduce characters.	☐	☐
Use techniques such as dialogue, description, and pacing to develop the story.	☐	☐
Include words and phrases that show the sequence of events.	☐	☐
Provide sensory details.	☐	☐
Write a good ending.	☐	☐

STOP

ENGLISH LANGUAGE ARTS

● **Part 4: Language**

Directions: Choose the best answer for each question.

1. **Which reference material provides the pronunciation of a word?**
   - (A) an atlas
   - (B) an index
   - (C) a dictionary
   - (D) an encyclopedia

2. **What does the expression *she is as pretty as a picture* mean?**
   - (F) She is painted in a picture.
   - (G) She has had her picture taken.
   - (H) She looks like someone in a picture.
   - (J) She is very beautiful.

3. **What does the expression *the early bird gets the worm* mean?**
   - (A) Birds get up early to look for worms.
   - (B) If you get up early, you can have a good breakfast.
   - (C) If you start early, you can get things done before other people.
   - (D) You should get up early just like the birds do.

4. **Which word best completes the sentence?**

   Dad said we had time to go to the mall _____ to the park, but not both.
   - (F) and
   - (G) but
   - (H) or
   - (J) by

5. **Which word best completes the sentence?**

   Put the box _____ the bed so no one can see it.
   - (A) under
   - (B) above
   - (C) next to
   - (D) on top of

6. **Which phrase best completes the sentence?**

   The cat _____ birth to five kittens last week.
   - (F) has gave
   - (G) had given
   - (H) have given
   - (J) has given

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ENGLISH LANGUAGE ARTS

● Part 4: Language (cont.)

Directions: Choose the best answer for each question.

7. Which word best completes the sentence?

Felipe _____ in the race last week.

- (A) ran
- (B) runs
- (C) run
- (D) has run

8. Which word best completes the sentence?

Neither Marcus _____ Olivia can come to the party.

- (F) or
- (G) nor
- (H) and
- (J) but

9. Which sentence is incorrect?

- (A) The class went on a trip and saw animals at the zoo.
- (B) The class will go on a trip and see animals at the zoo.
- (C) The class wants to go on a trip to see animals at the zoo.
- (D) The class went on a trip and sees animals at the zoo.

10. Which sentence is punctuated correctly?

- (F) John, Harry, Jayden, and Fred are all in my class.
- (G) John, Harry Jayden, and Fred are all in my class.
- (H) John Harry Jayden, and, Fred are all in my class.
- (J) John Harry Jayden and Fred are all in my class.

11. Which sentence is punctuated correctly?

- (A) In the backyard of my house, there are seven cherry trees.
- (B) In the backyard, of my house there are seven cherry trees.
- (C) In the backyard of my house there are seven cherry, trees.
- (D) In the backyard of my house there are, seven cherry trees.

12. Which sentence is punctuated correctly?

- (F) Yes I am here to take the math test.
- (G) Yes, I am here to take the math test.
- (H) Yes I am, here to take the math test.
- (J) Yes, I am here, to take the math test.

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━━━ ENGLISH LANGUAGE ARTS ━━━

● Part 4: Language (cont.)

Directions: Choose the best answer for each question.

13. **Which sentence is punctuated correctly?**

- (A) You are going to come aren't you?
- (B) You are going, to come aren't you?
- (C) You are going to come, aren't you?
- (D) You are going to come aren't, you?

14. **Which sentence is punctuated correctly?**

- (F) Are you coming to the party Stephanie?
- (G) Are you coming, to the party Stephanie?
- (H) Are you coming to the party, Stephanie?
- (J) Are you coming, to the party, Stephanie?

15. **Which sentence is correct?**

- (A) I chose the poem summer days from the book Lemonade Stand.
- (B) I chose the poem Summer Days from the book *Lemonade Stand*.
- (C) I chose the poem *Summer Days* from the book "Lemonade Stand."
- (D) I chose the poem "Summer Days" from the book *Lemonade Stand*.

16. **Which sentence was written after checking spellings in a dictionary?**

- (F) My little brother broke the propeler on my model plane.
- (G) Jenna wore her new sandels.
- (H) My puppy is very stubborn!
- (J) The steps were entireley covered with flowers.

17. **Which best combines the sentences?**

The boys went to the park. It was a nice day. They flew kites.

- (A) The boys went to the park on a nice day. They flew kites.
- (B) The boys went to the park. It was a nice day to fly kites.
- (C) The boys went to the park on a nice day to fly kites.
- (D) The boys went to the park it was a nice day they flew kites.

18. **Which best combines the sentences?**

The ball flew out of the field. It went into the stands. Lin caught the ball.

- (F) The ball flew out of the field and then went into the stands where Lin caught the ball.
- (G) Lin caught the ball that flew out of the field and into the stands.
- (H) The ball flew out of the field and into the stands so Lin could catch it.
- (J) Lin caught the ball because it went into the stands after it flew out of the field.

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ENGLISH LANGUAGE ARTS

● Part 4: Language (cont.)

Directions: Choose the best answer for each question.

19. Which sentence is correct?

(A) Mom had eaten five peaches by the time I got home.

(B) Mom eats five peaches by the time I got home.

(C) Mom had eat five peaches by the time I got home.

(D) Mom will have ate five peaches by the time I got home.

20. Which is a synonym for the underlined word?

Christopher _enclosed_ his yard so his dog would not run away.

(F) opened

(G) enlarged

(H) fenced

(J) circled

21. The Greek root *chronos* means "time." What does *chronicle* mean?

(A) clocks or watches

(B) events that happened later

(C) things that move clockwise

(D) a list of events in the order that they happened

22. Which gives the meaning of the sentence?

Minute differences in the leaves of the two plants can be seen by observing for a minute.

(F) Changing differences can be seen by extended watching.

(G) Obvious differences can be seen by watching for sixty seconds.

(H) Tiny differences can be seen by watching for sixty seconds.

(J) Unimportant differences can be seen by watching for a while.

23. Which word best completes the sentence?

Marcus was on time; _____, his brother arrived late.

(A) nevertheless

(B) similarly

(C) in addition

(D) however

24. Which word best completes the sentence?

_____ Christina was shy, she gave a very good speech.

(F) Although

(G) Nevertheless

(H) However

(J) Moreover

STOP

MATHEMATICS

● Part 1: Operations and Algebraic Thinking

Directions: Choose the best answer for each question.

1. Which expression matches the statement below?

   Add ten to the product of three and two.
   - (A) $10 + (3 + 2)$
   - (B) $10 \times (3 \times 2)$
   - (C) $10 + (3 \times 2)$
   - (D) $10 - (3 \times 2)$

2. What number is equal to the expression $9(6 + 2) - 7(4)$?
   - (F) 44
   - (G) 46
   - (H) 54
   - (J) 56

3. Which sets of ordered pairs match the rules given below?

   $x + 3$ and $x + 2$
   - (A) (0, 0), (1, 3), (2, 6) and (0, 0), (1, 2), (2, 3)
   - (B) (0, 3), (1, 4), (2, 5) and (0, 2), (1, 3), (2, 4)
   - (C) (0, 3), (1, 5), (2, 6) and (0, 0), (1, 2), (2, 4)
   - (D) (0, 0), (1, 4), (2, 5) and (0, 2), (1, 4), (2, 5)

4. Which expression matches the statement below?

   Multiply five by nine, then add twenty.
   - (F) $(5 \times 9) - 20$
   - (G) $(5 + 9) + 20$
   - (H) $(5 \times 9) \times 20$
   - (J) $(5 \times 9) + 20$

5. What number is equal to the expression $9(7) - (11 - 3)$?
   - (A) 49
   - (B) 55
   - (C) 65
   - (D) 71

6. Which sets of ordered pairs match the rules given below?

   $x - 1$ and $x - 3$
   - (F) (6, 7), (7, 8), (8, 9) and (6, 9), (7, 10), (8, 11)
   - (G) (6, 4), (7, 5), (8, 6) and (6, 3), (7, 4), (8, 5)
   - (H) (6, 5), (7, 6), (8, 7) and (6, 4), (7, 5), (8, 6)
   - (J) (6, 5), (7, 6), (8, 7) and (6, 3), (7, 4), (8, 5)

GO ON

MATHEMATICS
● Part 1: Operations and Algebraic Thinking (cont.)

Directions: Choose the best answer for each question.

7. **What number is equal to the expression [48 ÷ (3 + 9)] + 7(3)?**
   - (A) 17
   - (B) 21
   - (C) 24
   - (D) 25

8. **What number is equal to the expression [37 − (8 + 6)] + 4(9)?**
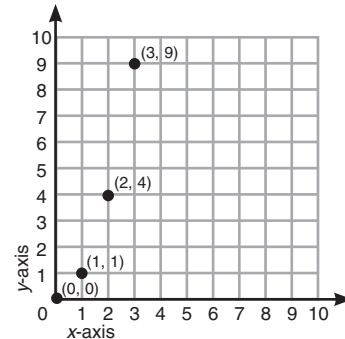   - (F) 58
   - (G) 73
   - (H) 59
   - (J) 87

9. **Which matches the expression (48 ÷ 8) + 16?**
   - (A) Divide forty-eight by eight, then add sixteen.
   - (B) Divide forty-eight by six, then add sixteen.
   - (C) Divide forty-eight by eight, then subtract sixteen.
   - (D) Divide forty-eight by eight, then multiply by sixteen.

10. **Which matches the expression 2 × (12 − 5)?**
    - (F) two times the difference of twelve and five
    - (G) two times the sum of twelve and five
    - (H) two times twelve and five
    - (J) two times the product of twelve and five

11. **What pattern was used to create the x and y values shown?**

   - (A) Add 1 to the previous x value to find the next x value, and add 1 to the previous y value to find the next y value.
   - (B) Add 1 to the previous x value to find the next x value, and multiply the x value by 1 to find the y value.
   - (C) Add 1 to the previous x value to find the next x value, and multiply the x value by 2 to find the y value.
   - (D) Add 1 to the previous x value to find the next x value, and multiply the x value by itself to find the y value.

12. **What number is equal to the expression 100 − [3(6 + 2) + 44]?**
    - (F) 28
    - (G) 30
    - (H) 32
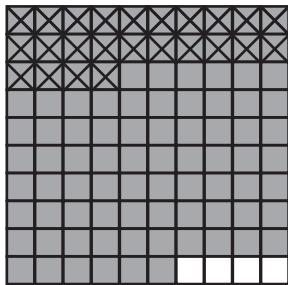   - (J) 42

STOP

MATHEMATICS

● Part 2: Number and Operations in Base Ten

Directions: Choose the best answer for each question.

1. **A grocery store sells packages of turkey burgers. There are 6 burgers in each package. If the store sold 1,296 turkey burgers over a week, how many packages were sold?**

   (A) 232 packages
   (B) 222 packages
   (C) 216 packages
   (D) 214 packages

2. **Amy buys 0.96 kilogram of cheese. If her family eats 0.24 kilogram, how much cheese is left? Use the graph to help you.**

   (F) 0.72 kg
   (G) 0.73 kg
   (H) 1.2 kg
   (J) 1.3 kg

3. **Which shows 19.628 written in expanded form?**

   (A) $1 \times 10 + 9 \times (\frac{1}{10}) + 6 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})$
   (B) $1 \times 10,000 + 9 \times 1,000 + 6 \times 100 + 2 \times 10 + 2 \times 1000$
   (C) $1 \times 10 + 9 \times 1 + 6 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})$
   (D) $1 \times 10 + 9 \times 1 + 6 \times (\frac{1}{10}) + 2 \times (\frac{1}{100}) + 8 \times (\frac{1}{1000})$

4. **A restaurant owner orders 32 boxes of napkins. If there are 250 napkins in each box, how many napkins are in the whole order?**

   (F) 6,000 napkins
   (G) 7,000 napkins
   (H) 7,900 napkins
   (J) 8,000 napkins

5. **The number of eggs a farm sells to supermarkets each year is represented by the expression below. Which value is equivalent to the expression?**

   $$2.6 \times 10^5$$

   (A) 26,000,000
   (B) 2,600,000
   (C) 260,000
   (D) 26,000

6. **Lynn buys 0.375 kilogram of turkey. She also buys ham. If the ham weighs more than the turkey, which could be the weight of the ham?**

   $$0.375 \text{ kg} < \square$$

   (F) 0.325 kg
   (G) 0.3 kg
   (H) 0.37 kg
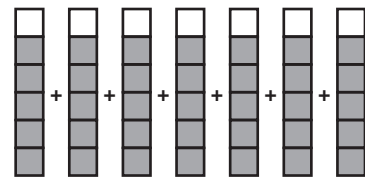   (J) 0.39 kg

   GO ON

MATHEMATICS

● Part 2: Number and Operations in Base Ten (cont.)

Directions: Choose the best answer for each question.

7. A furniture store orders 12 of the same chair. If the total order costs $4,344, what is the cost of each chair?

   (A) $360
   (B) $362
   (C) $382
   (D) $462

8. The width of a notebook is 12.124 centimeters. What is this width rounded to the nearest hundredth?

   (F) 12.10 cm
   (G) 12.13 cm
   (H) 12.12 cm
   (J) 12.14 cm

9. The number of boats at a boat show is represented by the expression below. Which value is equivalent to the expression?

   $$8 \times 10^3$$

   (A) 80
   (B) 800
   (C) 8,000
   (D) 80,000

10. Peter measures the area of two houses. One house measures 102.25 square meters. If the second house is larger, which could be the area of the second house?

    (F) 102.21 m²
    (G) 102.32 m²
    (H) 102.23 m²
    (J) 102.24 m²

11. The height of a tree is 463.15 centimeters. Which shows 463.15?

    (A) four hundred sixty-three and fifteen hundredths
    (B) four hundred sixty and fifteen hundredths
    (C) four hundred sixty-three and five thousandths
    (D) four hundred sixty-three and five tenths

12. A company made 42,835 computers last year. What is the value of the digit 4?

    (F) 4
    (G) 400
    (H) 4,000
    (J) 40,000

STOP

MATHEMATICS

● Part 3: Number and Operations—Fractions

Directions: Choose the best answer for each question.

1. **Alicia buys $\frac{7}{12}$ pound of chicken salad and $\frac{1}{4}$ pound of cheese at a deli. How much more chicken salad than cheese did she buy?**

   (A) $\frac{11}{12}$ lb.

   (B) $\frac{3}{4}$ lb.

   (C) $\frac{1}{4}$ lb.

   (D) $\frac{1}{3}$ lb.

2. **If 4 meters of tape is evenly divided into 24 pieces, how long is each piece?**

   (F) $\frac{1}{8}$ m

   (G) $\frac{1}{6}$ m

   (H) $\frac{1}{4}$ m

   (J) $\frac{1}{3}$ m

3. **Joel has $3\frac{3}{4}$ boxes of cereal, and $\frac{1}{4}$ of the cereal is whole grain. How much of the cereal is whole grain?**

   (A) $\frac{15}{16}$ box

   (B) $\frac{1}{15}$ box

   (C) $1\frac{1}{4}$ boxes

   (D) $3\frac{1}{2}$ boxes

4. **A recipe calls for $1\frac{1}{2}$ cups of oil. Brennan adds another $\frac{1}{6}$ cup of oil to the recipe. How many cups of oil does he use in all?**

   (F) $1\frac{2}{3}$ cups

   (G) $1\frac{1}{2}$ cups

   (H) $1\frac{4}{5}$ cups

   (J) $1\frac{5}{6}$ cups

5. **If 4 people share $\frac{1}{4}$ pound of walnuts equally, how many pounds will each person get?**

   (A) $\frac{1}{16}$ lb.

   (B) $\frac{1}{12}$ lb.

   (C) $\frac{1}{4}$ lb.

   (D) 1 lb.

6. **Each day, Nicole rides her bike $\frac{5}{6}$ mile. If she rides her bike for 7 days, how far does she ride in all?**

   (F) $5\frac{2}{3}$ miles

   (G) $5\frac{5}{6}$ miles

   (H) $6\frac{1}{6}$ miles
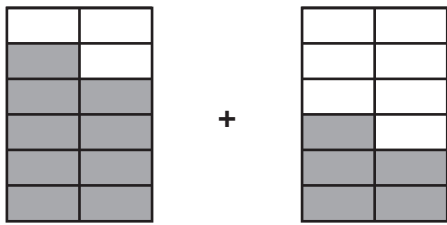
   (J) $7\frac{5}{6}$ miles

GO ON

MATHEMATICS

● Part 3: Number and Operations—Fractions (cont.)

Directions: Choose the best answer for each question.

7. Nancy makes punch for a party. She combines $\frac{9}{12}$ gallon of cranberry juice with $\frac{5}{12}$ gallon of orange juice. How many gallons of punch does she make in all?

- Ⓐ $\frac{5}{12}$ gallon
- Ⓑ $\frac{7}{12}$ gallon
- Ⓒ $1\frac{2}{3}$ gallons
- Ⓓ $1\frac{1}{6}$ gallons

8. Which statement is true for the product of the expression below?

$$\frac{1}{2} \times 12 = \square$$

- Ⓕ The product will be less than 12.
- Ⓖ The product will be less than $\frac{1}{2}$.
- Ⓗ The product will be greater than 12.
- Ⓙ The product will be equal to 12.

9. If 4 pizzas are shared equally among 8 people, what is each person's share?

- Ⓐ $\frac{1}{8}$
- Ⓑ $\frac{1}{6}$
- Ⓒ $\frac{1}{4}$
- Ⓓ $\frac{1}{2}$

10. Rafael has a piece of rope that is $\frac{7}{10}$ meter in length. If he cuts off $\frac{2}{5}$ meter, what length of the rope is left?

- Ⓕ $\frac{1}{10}$ m
- Ⓖ $\frac{2}{10}$ m
- Ⓗ $\frac{3}{10}$ m
- Ⓙ $\frac{2}{5}$ m

11. Each serving of steak at a restaurant is $\frac{3}{8}$ pound. If 12 orders are sold, how many pounds of steak are sold?

- Ⓐ $3\frac{1}{2}$ lb.
- Ⓑ $4\frac{3}{4}$ lb.
- Ⓒ $4\frac{1}{4}$ lb.
- Ⓓ $4\frac{1}{2}$ lb.

12. $\frac{11}{12} - \frac{3}{4} = \square$

- Ⓕ $\frac{1}{12}$
- Ⓖ $\frac{1}{3}$
- Ⓗ $\frac{1}{4}$
- Ⓙ $\frac{1}{6}$

GO ON

MATHEMATICS

● **Part 3: Number and Operations—Fractions (cont.)**

Directions: Choose the best answer for each question.

---

13. **What is the area of a rectangle with sides $5\frac{1}{4}$ inches and $9\frac{3}{4}$ inches?**

   (A) $45\frac{3}{16}$ in²

   (B) 30 in²

   (C) $51\frac{3}{16}$ in²

   (D) $37\frac{9}{16}$ in²

14. **Rob lives $\frac{7}{8}$ mile from school. He has walked $\frac{1}{2}$ of the way to school. How far has Rob walked?**

   (F) 1 mile

   (G) $\frac{7}{16}$ mile

   (H) $\frac{14}{5}$ mile

   (J) $\frac{2}{15}$ mile

15. **A pie has been partially eaten so that only $\frac{1}{3}$ remains. There are 5 people who want to share the amount that is left. What fraction of the original pie will each get if they share what is left equally?**

   (A) $\frac{1}{5}$

   (B) $\frac{1}{15}$

   (C) $\frac{1}{8}$

   (D) $\frac{1}{12}$

16. **A carpenter is building a bookshelf and needs 3 pieces of wood that are each $18\frac{7}{8}$ inches long. At least how long must a single board be to be cut into those 3 pieces?**

   $$18\frac{7}{8} \times 3 = \square$$

   (F) $54\frac{7}{8}$ in.

   (G) $56\frac{5}{8}$ in.

   (H) $55\frac{7}{8}$ in.

   (J) $55\frac{5}{8}$ in.

17. **Jerome has baked 18 cookies for his friends, but all of the cookies are big. He decides to cut each cookie evenly into fourths. How many cookie pieces does Jerome have?**

   (A) 22

   (B) 72

   (C) 54

   (D) 36

18. **Which correctly describes the size of the missing factor?**

   $$\frac{1}{2} \times \square = 14$$

   (F) less than $\frac{1}{2}$

   (G) less than 1

   (H) greater than 14

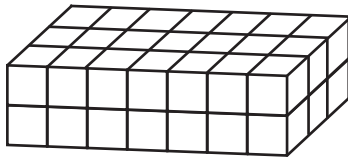   (J) greater than 34

STOP

MATHEMATICS

● **Part 4: Measurement and Data**

Directions: Choose the best answer for each question.

1. **Carl's dining room table measures 30 inches tall. How many feet tall is the table?**
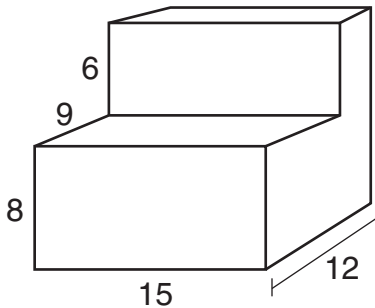
   (A) 2 feet, 4 inches
   (B) 2 feet, 5 inches
   (C) 2 feet, 6 inches
   (D) 2 feet, 8 inches

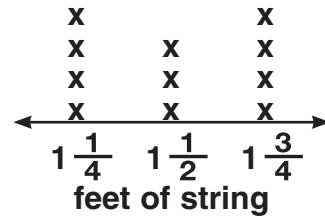2. **In the figure below, each cube represents a cubic inch. What is the volume of the figure?**

   (F) 32 cubic inches
   (G) 38 cubic inches
   (H) 40 cubic inches
   (J) 42 cubic inches

3. **What is the volume of the figure in cubic units?**

   (A) 1,080 cubic units
   (B) 1,584 cubic units
   (C) 2,520 cubic units
   (D) 1,710 cubic units

4. **Mr. Andres has pieces of string that are each $1\frac{1}{4}$, $1\frac{1}{2}$, or $1\frac{3}{4}$ feet long. The line plot below shows how many pieces of each length he has. How many feet of string does he have all together?**
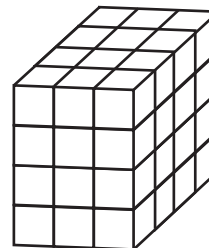

   feet of string

   (F) $9\frac{1}{2}$ ft.
   (G) $11\frac{1}{2}$ ft.
   (H) $15\frac{3}{4}$ ft.
   (J) $16\frac{1}{2}$ ft.

5. **The figure below represents the dimensions of Arial's house in meters. What is the volume of the house?**

   (A) 726 m²
   (B) 776 m³
   (C) 1,176 m²
   (D) 1,176 m³

6. **In the figure below, each cube represents a cubic centimeter. What is the volume of the figure?**

   (F) 24 cm³
   (G) 36 cm³
   (H) 48 cm³
   (J) 60 cm³

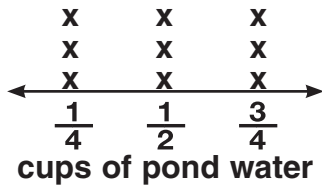   GO ON

MATHEMATICS

● Part 4: Measurement and Data (cont.)

Directions: Choose the best answer for each question.

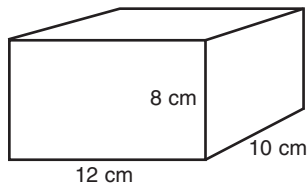**7.** **A screw is 15 centimeters long. What is its length in meters?**

- (A) 0.0015 m
- (B) 0.015 m
- (C) 1.5 m
- (D) 0.15 m

8. **For a science experiment, Chase fills containers with $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$ cup of pond water. The line plot below shows how many containers have each amount of water. If he decides to spread out the water evenly among the containers, how many cups of water will be in each container?**

```
   X      X      X
   X      X      X
   X      X      X
 ──┼──────┼──────┼──▶
   1      1      3
   4      2      4
```
cups of pond water

- (F) $\frac{1}{2}$ cup
- (G) $\frac{3}{4}$ cup
- (H) $\frac{1}{4}$ cup
- (J) $\frac{1}{3}$ cup

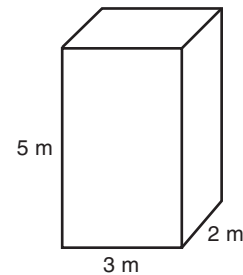**9.** **What is the volume of the container?**

8 cm

10 cm

12 cm

- (A) 860 cm³
- (B) 900 cm³
- (C) 960 cm³
- (D) 1,152 cm³

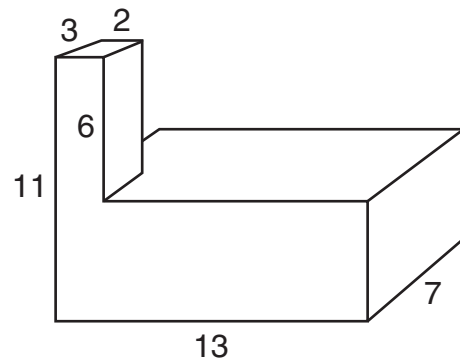**10.** **The market is 3.8 kilometers from Kara's house. What is this distance in meters?**

- (F) 0.0038 m
- (G) 0.038 m
- (H) 380 m
- (J) 3,800 m

11. **What is the volume of the container?**

5 m

2 m

3 m

- (A) 25 m³
- (B) 28 m³
- (C) 30 m³
- (D) 36 m³

12. **What is the volume of the figure in cubic units?**
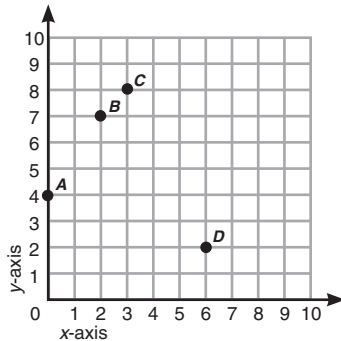
3   2

6

11

7

13

- (F) 491 cubic units
- (G) 455 cubic units
- (H) 965 cubic units
- (J) 1,001 cubic units

STOP

MATHEMATICS

● Part 5: Geometry

Directions: Choose the best answer for each question.

1. **What are the coordinates of point *D*?**

- Ⓐ (2, 6)
- Ⓑ (2, 7)
- Ⓒ (7, 2)
- Ⓓ (6, 2)

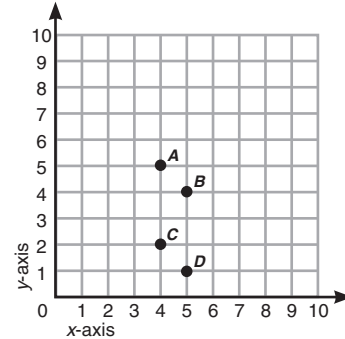**2.** **Which statement best describes a rhombus?**

- Ⓕ It has 4 congruent sides.
- Ⓖ It has 4 parallel sides.
- Ⓗ It has 4 right angles.
- Ⓙ It has 2 right angles.

3. **Which makes the statement true?**

A rectangle is sometimes, but not always, a _____.

- Ⓐ parallelogram
- Ⓑ trapezoid
- Ⓒ quadrilateral
- Ⓓ square

4. **Which point represents (4, 5)?**

- Ⓕ point *A*
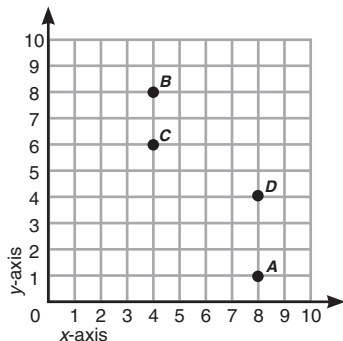- Ⓖ point *B*
- Ⓗ point *C*
- Ⓙ point *D*

5. **Use the graph above. What are the coordinates of point *B*?**

- Ⓐ (4, 5)
- Ⓑ (5, 4)
- Ⓒ (5, 1)
- Ⓓ (4, 2)

6. **Which statement is not true for all rectangles?**

- Ⓕ They have 4 right angles.
- Ⓖ They have 2 pairs of congruent sides.
- Ⓗ They have 2 pairs of parallel sides.
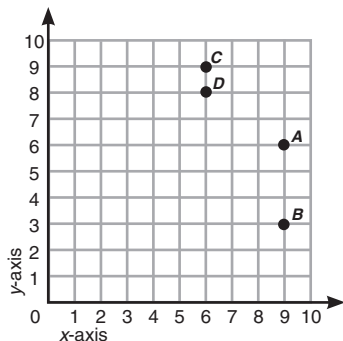- Ⓙ They have 4 congruent sides.

GO ON

MATHEMATICS

● Part 5: Geometry (cont.)

Directions: Choose the best answer for each question.

7. What are the coordinates of point *D*?

- (A) (4, 6)
- (B) (4, 8)
- (C) (8, 1)
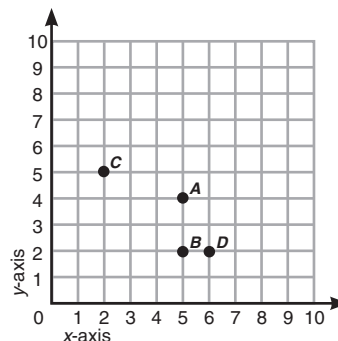- (D) (8, 4)

8. Which shape is also a quadrilateral?

- (F) triangle
- (G) circle
- (H) rhombus
- (J) pentagon

9. Which point represents (6, 9)?

- (A) point *A*
- (B) point *B*
- (C) point *C*
- (D) point *D*

10. Which statement best describes a trapezoid?

- (F) A trapezoid has 2 pairs of parallel sides.
- (G) A trapezoid has 1 pair of parallel sides.
- (H) A trapezoid has 4 congruent sides.
- (J) A trapezoid has 4 congruent angles.

11. Which point represents (5, 2)?

- (A) point *A*
- (B) point *B*
- (C) point *C*
- (D) point *D*

12. Which statement is true for all parallelograms?

- (F) They have 4 congruent sides.
- (G) They have 4 right angles.
- (H) They have 4 sides.
- (J) They have 4 congruent angles.

STOP

ANSWER KEY

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