

PRACTICE TEST

Mathematics

Grade 7

Student Name

School Name

District Name

Grade 7 Mathematics

SESSION 1

This session contains 6 questions.

*You may use your reference sheet during this session.
You may **not** use a calculator during this session.*



Directions

Read each question carefully and then answer it as well as you can. You must record all answers in this Practice Test Booklet.

For some questions, you will mark your answers by filling in the circles in your Practice Test Booklet. Make sure you darken the circles completely. Do not make any marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely.

For other questions, you will need to fill in an answer grid. Directions for completing questions with answer grids are provided on the next page.

If a question asks you to show or explain your work, you must do so to receive full credit. Write your response in the space provided. Only responses written within the provided space will be scored.

Directions for Completing Questions with Answer Grids

1. Work the question and find an answer.
2. Enter your answer in the answer boxes at the top of the answer grid.
3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
4. Under each answer box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
5. Do not fill in a circle under an unused answer box.
6. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.
7. If you need to change an answer, be sure to erase your first answer completely.
8. See below for examples of how to correctly complete an answer grid.

EXAMPLES

| | | | | | | |
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| ○ | ○ | ○ | ○ | ○ | ○ | ○ |
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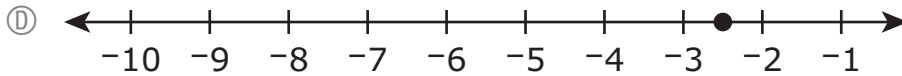
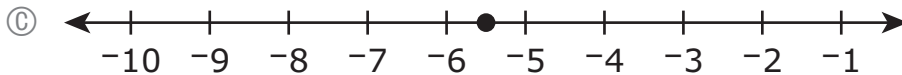
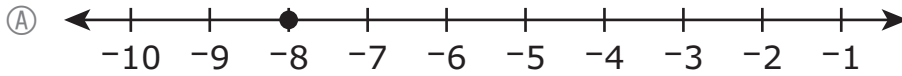
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- 1 Consider this equation.

$$x = 2.5 - (8)$$

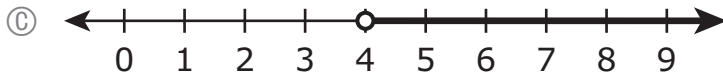
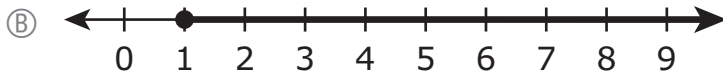
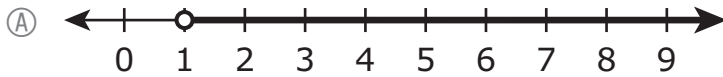
Which of the following shows the value of x graphed on a number line?



2 Customers must spend a minimum of \$25 at an online art supply store to receive free shipping. A customer ordered 10 tubes of paint and an easel.

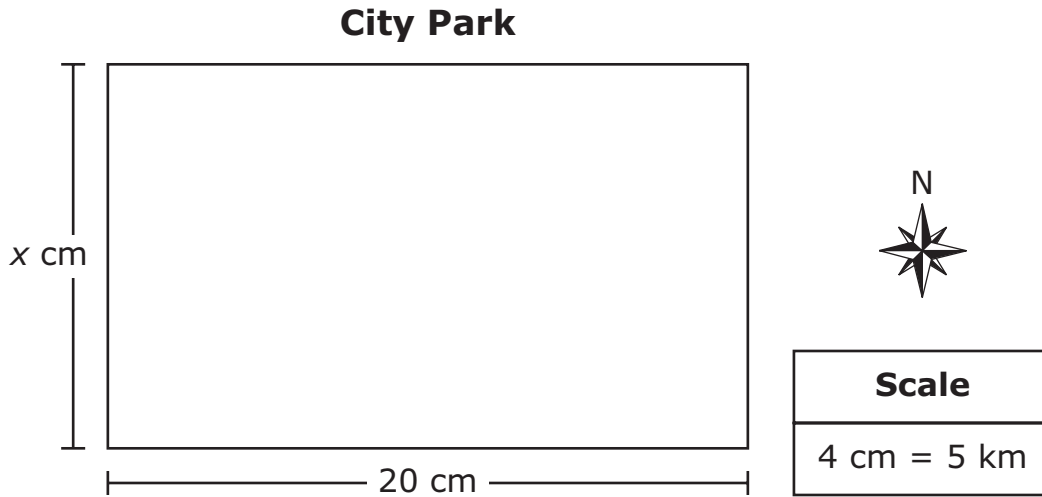
- Each tube of paint cost the same amount.
- The easel cost \$15.

Which of the following number lines shows all the possible costs, in dollars, of one tube of paint if the customer received free shipping?



This question has two parts.

- 3 A map of a city park and its scale are shown.



Part A

On the map, the south side has a length of 20 centimeters. What is the **actual distance**, in kilometers, of the south side of the park?

Enter your answer in the answer boxes at the top of the answer grid **and** completely fill the matching circles.

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| • | • | • | • | • | • | • | • |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

Part B

The west side of the park has an actual distance of 15 kilometers. On the map, what is the length, in **centimeters**, of the west side of the park?

Enter your answer in the answer boxes at the top of the answer grid **and** completely fill the matching circles.

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| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |



4 Which of the following equations is true?

Ⓐ $-3 - (-4x + 6) = (6 - 4x) - 3$

Ⓑ $-3 - (-4x + 6) = (6 + 4x) - 3$

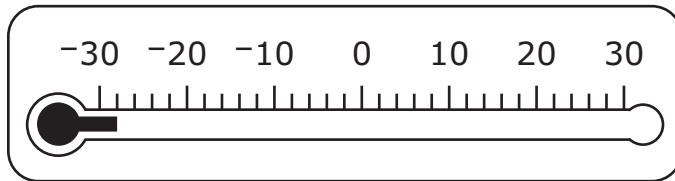
Ⓒ $-3 - (-4x + 6) = (-6 - 4x) - 3$

Ⓓ $-3 - (-4x + 6) = (-6 + 4x) - 3$

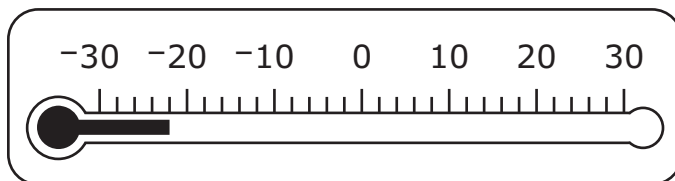
- 5 Yesterday, the temperature at sunrise was -3°F . At sunset, the temperature was 25 degrees warmer than the temperature at sunrise.

Which of the following shows the temperature, in degrees Fahrenheit, at sunset?

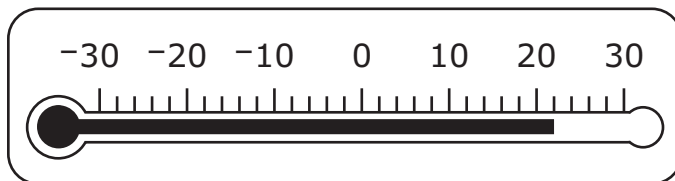
- (A) **Temperature at Sunset ($^{\circ}\text{F}$)**



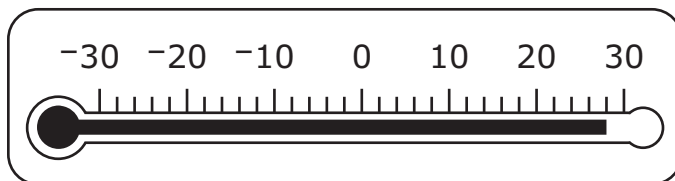
- (B) **Temperature at Sunset ($^{\circ}\text{F}$)**



- (C) **Temperature at Sunset ($^{\circ}\text{F}$)**



- (D) **Temperature at Sunset ($^{\circ}\text{F}$)**



- 6 A librarian is reading a book during her lunch breaks. She recorded some of her reading rates over the past three days in this table.

Reading Rates

| Day | Number of Pages Read | Time (hour) | Rate (pages per hour) |
|-----------|----------------------|----------------------|-----------------------|
| Monday | $8\frac{1}{4}$ | $\frac{1}{6}$ | <input type="text"/> |
| Tuesday | <input type="text"/> | $\frac{1}{2}$ | 60 |
| Wednesday | 80 | <input type="text"/> | 40 |

Which of the following completed tables correctly shows her reading rates?

(A)

Reading Rates

| Day | Number of Pages Read | Time (hour) | Rate (pages per hour) |
|-----------|----------------------|---------------|-----------------------|
| Monday | $8\frac{1}{4}$ | $\frac{1}{6}$ | $49\frac{1}{2}$ |
| Tuesday | 120 | $\frac{1}{2}$ | 60 |
| Wednesday | 80 | 2 | 40 |

(B)

Reading Rates

| Day | Number of Pages Read | Time (hour) | Rate (pages per hour) |
|-----------|----------------------|---------------|-----------------------|
| Monday | $8\frac{1}{4}$ | $\frac{1}{6}$ | $49\frac{1}{2}$ |
| Tuesday | 30 | $\frac{1}{2}$ | 60 |
| Wednesday | 80 | 3,200 | 40 |

(C)

Reading Rates

| Day | Number of Pages Read | Time (hour) | Rate (pages per hour) |
|-----------|----------------------|---------------|-----------------------|
| Monday | $8\frac{1}{4}$ | $\frac{1}{6}$ | $49\frac{1}{2}$ |
| Tuesday | 30 | $\frac{1}{2}$ | 60 |
| Wednesday | 80 | 2 | 40 |

(D)

Reading Rates

| Day | Number of Pages Read | Time (hour) | Rate (pages per hour) |
|-----------|----------------------|---------------|-----------------------|
| Monday | $8\frac{1}{4}$ | $\frac{1}{6}$ | $49\frac{1}{2}$ |
| Tuesday | 120 | $\frac{1}{2}$ | 60 |
| Wednesday | 80 | 3,200 | 40 |

Grade 7 Mathematics

SESSION 2

This session contains 6 questions.

*You may use your reference sheet during this session.
You may use a calculator during this session.*



Directions

Read each question carefully and then answer it as well as you can. You must record all answers in this Practice Test Booklet.

For some questions, you will mark your answers by filling in the circles in your Practice Test Booklet. Make sure you darken the circles completely. Do not make any marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely.

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If a question asks you to show or explain your work, you must do so to receive full credit. Write your response in the space provided. Only responses written within the provided space will be scored.

Directions for Completing Questions with Answer Grids

1. Work the question and find an answer.
2. Enter your answer in the answer boxes at the top of the answer grid.
3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
4. Under each answer box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
5. Do not fill in a circle under an unused answer box.
6. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.
7. If you need to change an answer, be sure to erase your first answer completely.
8. See below for examples of how to correctly complete an answer grid.

EXAMPLES

| | | | | | | |
|---|---|---|---|---|---|---|
| − | 1 | 4 | | | | |
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| ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ |
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| ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ |
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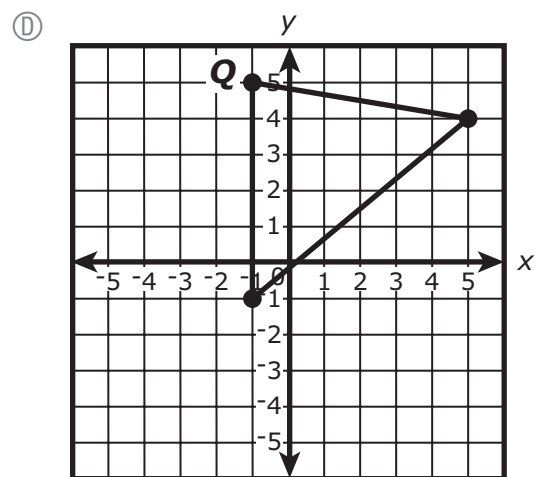
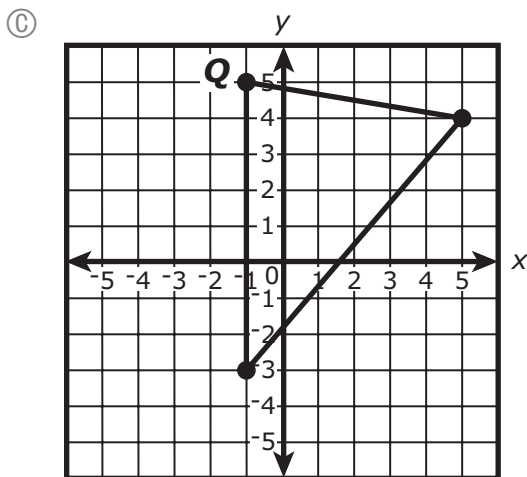
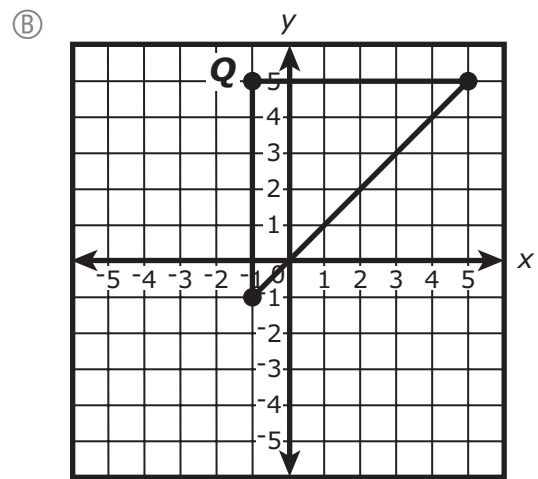
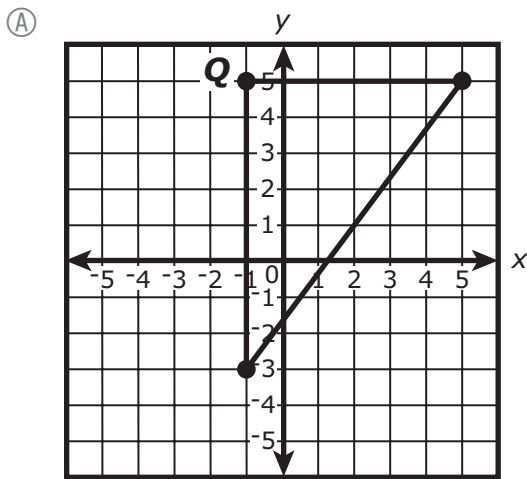
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| | 9 | · | 5 | 5 | 5 | 5 |
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| ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ |
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| ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ |
| ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ |
| ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ | ⦿ |

- 7 A cube will be sliced once.
Select the **three** two-dimensional figures that could result from slicing the cube.
- Ⓐ circle
 - Ⓑ prism
 - Ⓒ triangle
 - Ⓓ octagon
 - Ⓔ pentagon
 - Ⓕ parallelogram
- 8 Dana has 8 baseball cards, 10 football cards, 4 hockey cards, and 14 basketball cards. All the cards are the same size and shape. Dana will select one card at random.
What is the probability that the card selected will be a hockey card?
- Ⓐ $\frac{1}{9}$
 - Ⓑ $\frac{1}{8}$
 - Ⓒ $\frac{1}{4}$
 - Ⓓ $\frac{1}{3}$

9 A student drew triangle PQR on a coordinate plane. The triangle had the following conditions:

- The measure of $\angle Q$ is 90 degrees.
- The length of \overline{QR} is 6 units.
- The length of \overline{PQ} is 8 units.

Which of the following coordinate planes shows the triangle the student drew?



- 10 A bicycle is on sale at a store for 15% off its original price. The original price, in dollars, of the bicycle is represented by the variable p .

Which of the following expressions represents the final sale price, in dollars, of the bicycle?

Select the **two** correct answers.

- Ⓐ $p - 0.15p$
 - Ⓑ $p - 0.15$
 - Ⓒ $p - 0.85p$
 - Ⓓ $0.15p$
 - Ⓔ $0.85p$
- 11 A bottle contains 120 fluid ounces of laundry detergent. Which of the following is closest to the number of liters in 120 fluid ounces? (1 fluid ounce \approx 0.0296 liter)
- Ⓐ 3.55 liters
 - Ⓑ 4.05 liters
 - Ⓒ 4.16 liters
 - Ⓓ 4.47 liters

This question has three parts. Be sure to label each part of your response.

12 Billy left home at 9 a.m. and rode his bicycle to the park at an average speed of 10 miles per hour. He arrived at the park at 9:30 a.m.

A. How many miles from the park is Billy's home? Show or explain how you got your answer.

Derrick lives 3 miles from the park. He rode his bicycle to the park at an average speed of 9 miles per hour.

B. How many minutes did it take Derrick to ride his bicycle to the park? Show or explain how you got your answer.

Juan lives 2.5 miles from the park. It took him 12 minutes to ride his bicycle to the park.

C. What was Juan's average speed, in miles per hour, while riding his bicycle to the park? Show or explain how you got your answer.

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