Level 2: The Number System Posttest

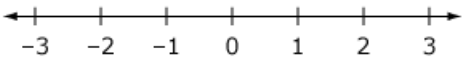
Question 1:

The letters a and b represent temperatures in degrees Fahrenheit. The sum of a plus b is 0.

If $a = 6$, what is the value of b?

Question 2:

You may use the number line to help answer the following question.



When placed on a number line, which integers are farthest apart?

a. (2, 10)

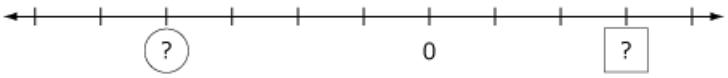
b. (−10, 4)

c. (−8, −20)

d. (6, −11)

Question 3:

The number line is divided into equal parts.



Which numbers belong in the square and circle?

a. −4 | −(−3)

b. 4 | −3

c. −(−4) | 3

d. 4 | 3

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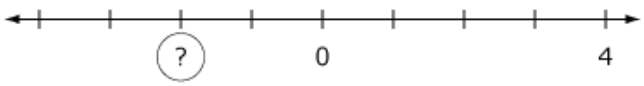
Question 4:

The number line is divided into equal parts.



The circle represents a number on the number line.

Which number belongs in the circle?

a. 6

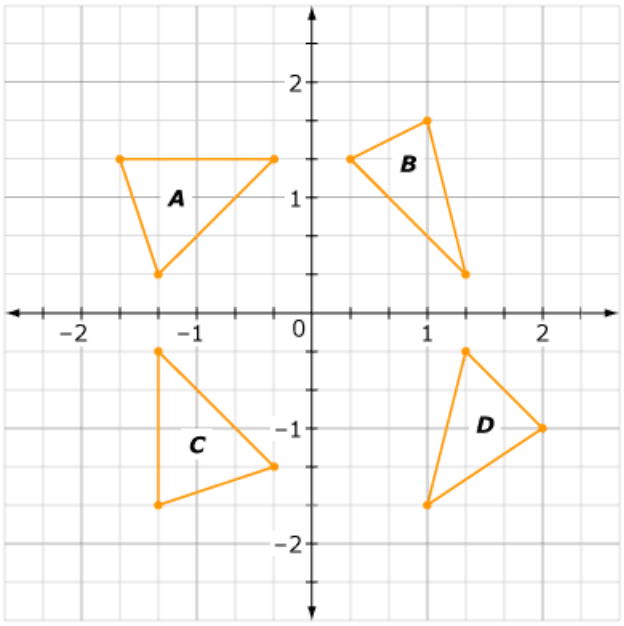
b. 2

c. −2

d. −3

Question 5:

Which triangle includes the point $\left(1\frac{1}{3}, -\frac{1}{3}\right)$?



a. Triangle A

b. Triangle B

c. Triangle C

d. Triangle D

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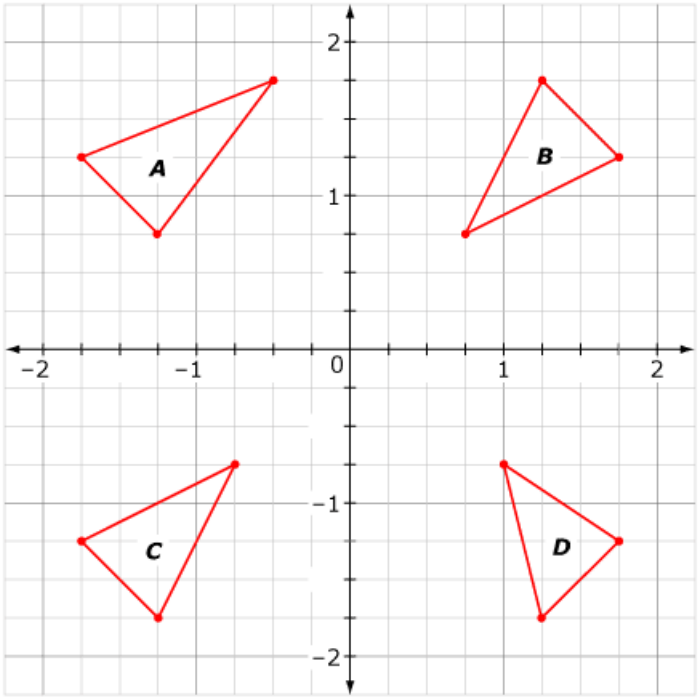
Question 6:

Which triangle includes the point $\left(-1\frac{3}{4},\ 1\frac{1}{4}\right)$?



a. Triangle A

b. Triangle B

c. Triangle C

d. Triangle D

Question 7:

Anthony's Pizza Shop served 202,240 ounces of soft drinks in one year. The soft drinks come in kegs that contain 640 ounces.

How many kegs of soft drink did Anthony's Pizza Shop serve?

kegs

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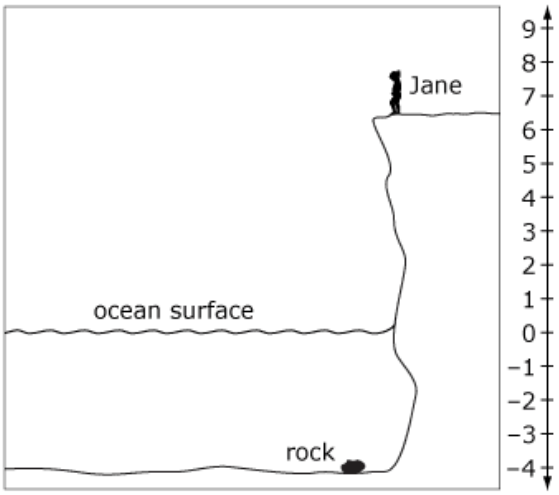
Question 8:

Jane is standing on a cliff 6.5 meters above the ocean surface.



What number describes the distance between Jane and the rock on the ocean floor?

a. −2.5

b. −4.0

c. +2.5

d. +10.5

Question 9:

The following inequalities compare temperatures in degrees Fahrenheit.

Which inequalities are correct? (Select all that are correct.)

- [ ] $-12 < -1$
- [ ] $5 < -(-2)$
- [ ] $-(-2) > -3$
- [ ] $-7 > -(-1)$
- [ ] $4 < -(-3)$

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Question 10:

If p is a temperature above zero and q is a temperature below zero, which statement is true?

a. $|p|$ is always greater than $|q|$.

b. $|p|$ is sometimes greater than $|q|$.

c. $|p|$ is always less than $|q|$.

d. None of the above is a true statement.

Question 11:

If a is a temperature below zero and b is a temperature above zero, which statement is true?

a. a is always less than $|b|$.

b. a is sometimes less than $|b|$.

c. a is always greater than $|b|$.

d. None of the above is a true statement.

Question 12:

The following inequalities compare temperatures in degrees Celsius.

Which inequalities are correct? (Mark all that are correct.)

- ☐ $|-10| > -9$
- ☐ $|-(-10)| < |-20|$
- ☐ $|14| < |-17|$
- ☐ $15 < |-10|$
- ☐ $4 > |-(-6)|$

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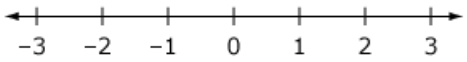
Question 13:

You may use the number line to help answer the following question.



Sea level is represented by the number 0. Suppose p represents a position above sea level and m represents a position below sea level.

Which expression yields the largest number?

a. $p - m$

b. $p - |m|$

c. $|p| - |m|$

d. $p + m$

Question 14:

The smallest hummingbird weighs 0.07 ounces. The hummingbird eats 4.2 times its weight in nectar each day.

How many ounces of nectar does the hummingbird eat per day? (Round your answer to the nearest hundredth.)

_____ ounces

Question 15:

Mike needs $\frac{2}{3}$ pound of modeling clay for a project. Each package holds $\frac{1}{8}$ pound of modeling clay.

How many packages does Mike need for his project?

a. $\frac{1}{12}$ package

b. $\frac{3}{16}$ packiage

c. $5\frac{1}{3}$ packages

d. 12 packages

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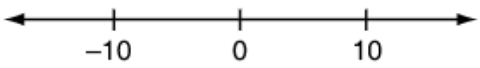
Question 16:

You may use the number line to help you answer this question.



Which inequalities correctly show the relationship between the numbers 13, −4, and −17?

a. $13 > -17$ and $-4 > -17$

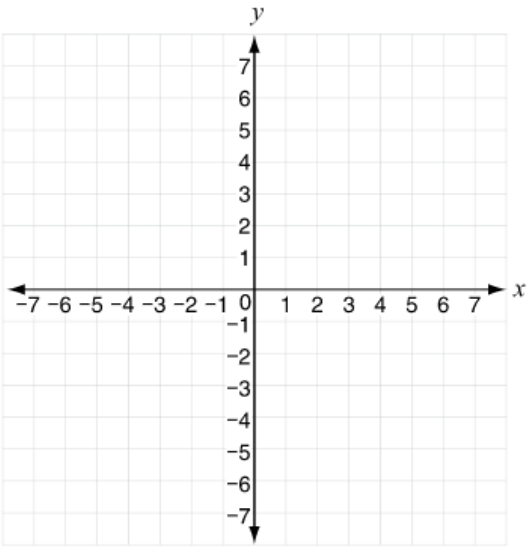
b. $13 > -17$ and $-4 < -17$

c. $13 < -17$ and $-4 > -17$

d. $13 < -17$ and $-4 < -17$

Question 17:

You may use the coordinate plane to help you answer this question.



Point *T* is located at (1, 4). Point *U* is located at (6, 4). The distance between a third point, *V*, and point *T* is equal to the distance between points *T* and *U*.

Which of the following could be the coordinates of point *V*?

a. (4, −4)

b. (−4, 4)

c. (5, 4)

d. (4, 5)

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Question 18:

Steven drew a number line to compare the locations of two numbers, q and s. He correctly located s to the right of 0 and q to the left of 0 on the number line.

Which inequality compares q, s, and 0?

a. $q > 0 > s$

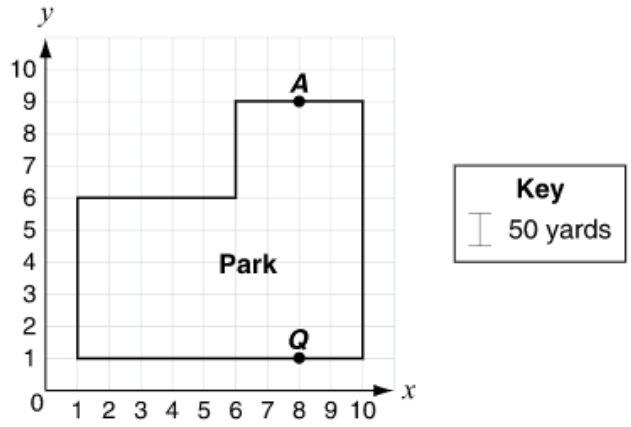
b. $q < 0 < s$

c. $0 > q > s$

d. $0 < s < q$

Question 19:

This coordinate plane shows a map of a park. Each unit on the plane represents 50 yards.



Quentin is at point Q on the map. He walks in a straight line to his friend Allan, who is located at point A.

What distance does Quentin walk?

a. 400 yards

b. 450 yards

c. 800 yards

d. 900 yards

Continue

Question 20:

What is the least common multiple of 10 and 12?

a. 2

b. 22

c. 60

d. 120

Question 21:

The level of the tide in a harbor is recorded at three different times.

- 1.5 feet at noon
- –3.2 feet at 3:00 p.m.
- –1.8 feet at 4:00 p.m.

Put the numbers in order from least to greatest.

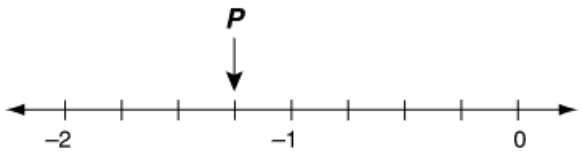
1.5 feet

—3.2 feet

—1.8 feet

Question 22:

Look at the number line below.



What number is located at point *P* on the line?

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Question 23:

On a coordinate plane, Nate plotted point *A* at (−4, −3) and point *B* at (−4, 2). He then plotted point *C* such that:

- Point C and point B are the same distance from point A.
- Point C is to the right of point A.

What are the coordinates of point *C*?

(,)

Question 24:

Sophia recorded the temperature at noon for seven days.

Temperature at Noon

Day	Temperature (°F)
Monday	–2
Tuesday	1
Wednesday	0
Thursday	–4
Friday	–1
Saturday	–5
Sunday	2

On which days was the temperature at noon below 0°F and warmer than Thursday?

a. Tuesday and Sunday

b. Monday and Friday

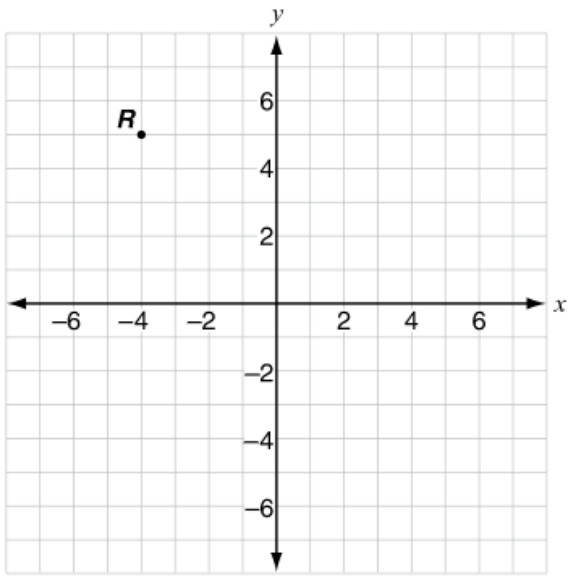
c. Monday, Friday, and Saturday

d. Monday, Wednesday, and Friday

Continue ➡

Question 25:

Max graphs point *R*.



- Max reflects point R across the x-axis.
- Then he reflects it across the y-axis.

What are the coordinates of Max's final point?

a. (4, –5)

b. (–4, 5)

c. (4, 5)

d. (–4, –5)

Continue

Question 26:

Lily graphed point R.

- The *x*-coordinate of point R is 3.
- The *y*-coordinate of point R is a positive number.
- Point S is a reflection of point R across the *x*-axis.

Which could be the coordinates of points R and S?

a. Point R (3, 4)
Point S (−3, −4)

b. Point R (3, −4)
Point S (−3, 4)

c. Point R (3, 4)
Point S (−3, 4)

d. Point R (3, 4)
Point S (3, − 4)

Question 27:

This chart shows the freezing points of different bodies of water.

Freezing Points of Seas and Lakes

Body of Water	Freezing Point (C°)
Baltic Sea	–0.3
Black Sea	–1.0
Great Salt Lake	–11.2
Red Sea	–2.6

Which body of water has the warmest freezing point?

a. Baltic Sea

b. Black Sea

c. Great Salt Lake

d. Red Sea

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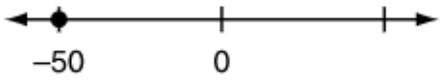
Question 28:

The dot on this number line represents Kelsie's debt.



Which statement is true about her debt?

a. It is greater than $40.

b. It is less than $10.

c. It is greater than $50.

d. It is less than $20.

Stop