

Name:

Date:

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### Unit 8 Study Guide - Extending the Number System

Directions: Complete each questions carefully. Be sure to show all work.



1. What is the opposite of point D?

2

2. Find the opposite of the following:

- a. 0
- b. -5
- c. 11
- d. -1.28
- e.  $-\frac{1}{2}$

3. Elevation is height compared to sea level. If the height of a landmass is below sea level, the elevation is negative. The lowest point in Europe is in Prince Alexander Polder. It has an elevation of -3 meters. Which point on the number line represents -3 meters if each unit is 1 meter?



- A
- C
- E

B

D

4. In question #3, state the numerical value for each of the letters.

- A = -6
- B = -4
- C = -1
- D = 2
- E = 5

5. It is  $46^{\circ}\text{F}$  outside. If the temperature drops  $17^{\circ}\text{F}$ , what will the temperature be?

$$\begin{array}{r} 346 \\ -17 \\ \hline 29 \end{array}$$

- A.  $29^{\circ}$
- B.  $5^{\circ}$
- C.  $-5^{\circ}\text{F}$
- D.  $-29^{\circ}\text{F}$

6. Put the following integers in order from greatest to least: 8, -8, 10, 12, -9, 1

12, 10, 8, 1, -8, -9

-4/3, 0.5, 3 1/8, 1 4/5, -0.3, 0.3, -2 7/8

7. There are seven rational numbers shown above. Put them in order from least to greatest.

$-2\frac{7}{8}, -\frac{4}{3}, -0.3, 0.3, 0.5, 1\frac{4}{5}, 3\frac{1}{8}$

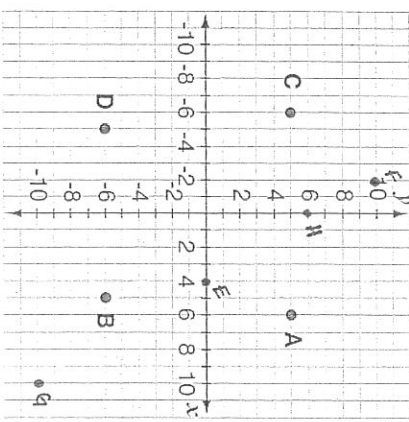
-7 > -10.5

8. A mathematical expression is shown above. Which of the following could be a true description of the expression?

- \$7.00 is a greater debt than \$10.50.
- $-7^{\circ}\text{F}$  is colder than  $-10.5^{\circ}\text{F}$ .
- $7^{\circ}$  below zero is warmer than  $10.5^{\circ}$  below zero.

9. Give the ordered pair for all of the points in the coordinate plane below.

- A (6, 5)
- B (5, -6)
- C (-6, 5)
- D (-5, -6)



10. Using the coordinate plane above, graph the following ordered pairs:

- E (4, 0)
- F (-2, 10)
- G (10, -10)
- H (0, 6)

11. In which quadrant would the ordered pair (-10, 8) be found?

- A. Quadrant I
- B. Quadrant II
- C. Quadrant III
- D. Quadrant IV

12. The point P(-3, -9) is reflected across the x-axis to create point Q. Which ordered pair represents the location of point Q?

- (3, 9)
- (-3, 9)

- (3, -9)
- (-3, -9)

13. The point (-5, 7) is reflected to create (-5, -7). Which of the following is true?

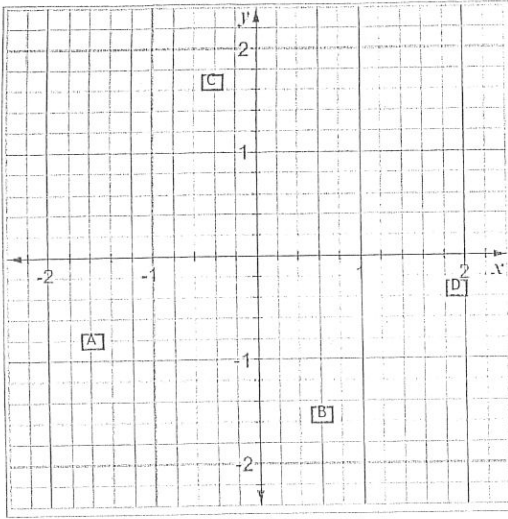
- The point (-5, 7) was reflected across the x-axis.
- The point (-5, 7) was reflected across the y-axis.
- The point (-5, 7) was reflected across the y-axis and then it was reflected across the x-axis.
- The point (-5, 7) was reflected across both the x-axis and the y-axis.
- None of the answer choices is true.

14.

The point (4, -3) was reflected to create point (-4, 3). Which of the following statements are true? Select all that apply.

- The point (4, -3) was reflected across the y-axis to create (-4, 3).
- The point (4, -3) was reflected across the x-axis to create (-4, 3).
- The point (4, -3) was reflected across the y-axis and then the x-axis.
- The point (4, -3) was reflected across the x-axis and then the y-axis.

15.)



$$\frac{1}{5} = 0.2$$

$$\frac{2}{5} = 0.4$$

$$\frac{3}{5} = 0.6$$

$$\frac{4}{5} = 0.8$$

$$\frac{5}{5} = 1$$