

Chapter 5 Test Study Guide

Write an integer for each situation. Then explain the meaning of zero in each situation *using a complete sentence!*

1) 27 degrees above zero: 27

The integer 0 represents zero degrees.

2) A withdrawal of \$62 from your bank account: -62

The integer 0 represents no change to the account balance; no money is withdrawn and no money is deposited.

3) Which integer best represents a deposit of \$37?

A. 37

B. -37

C. -|37|

D. -|-37|

4) Which situation is *not* best described by a negative integer?

F. a withdrawal of \$45

H. a loss of 12 yards

G. a fine of \$15

I. a bonus of 10 points

5) Which integer represents a decrease of five degrees?

A. +7

B. +5

C. -5

D. -7

6) Which numbers are less than -3? *Circle all that apply.*

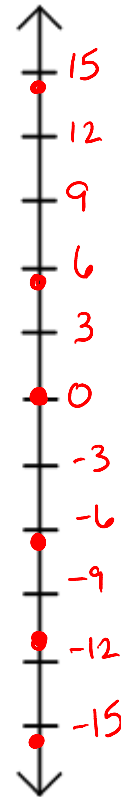
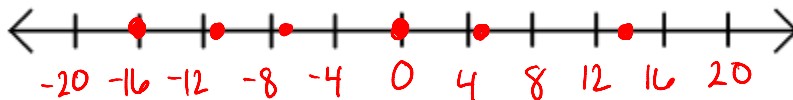
A. 0

B. -3.5

C. -2.99

D. -4

7) Graph the set of integers on both number lines: $\{-16, 14, 0, -7, 5, -11\}$



Replace each with $<$, $>$, or $=$ to make a true statement.

8) -56 3

9) -19.608 -19.7

10) $-2\frac{4}{9}$ 0.5678

19.608

19.700

Order each set of numbers from least to greatest.

- 11) 248, ~~-159~~, 78, ~~-203~~, 21, ~~-6~~ 12) 6.7, -6.03, $6\frac{3}{4}$, -7, $-6\frac{2}{5}$ 13) $-8\frac{1}{5}$, 8.23, $-8\frac{2}{11}$, $-8.\overline{21}$
- Handwritten:* 6.75 -6.4 $-8.1\overline{8}$
- Handwritten:* $-203, -159, -6, 21, 78, 248$ $-7, -6\frac{2}{5}, -6.03, 6.7, 6\frac{3}{4}$ $-8.\overline{21}, -8\frac{1}{5}, -8\frac{2}{11}, 8.23$

14) Some portions of New Orleans, Louisiana are as high as 20 ft at the base of the river levee in Uptown. Other portions of Eastern New Orleans are as low as -7 ft. Write an inequality for the two elevations and describe its meaning.

Handwritten: $20 > -7$; Uptown New Orleans has a higher elevation than portions of Eastern New Orleans.

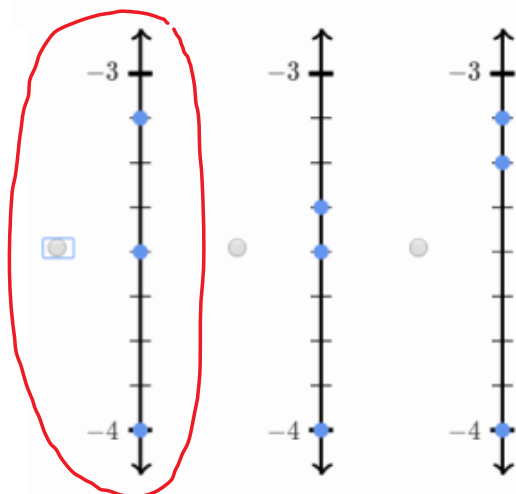
Provide the opposite and absolute value of each number.

	Number	Opposite	Opposite of the Opposite	Absolute Value
15)	-59	59	-59	59
16)	8.75	-8.75	8.75	8.75
17)	0	0	0	0

18) The locations of three fish relative to the water's surface are -13 feet, -33 feet, and 22 feet. Which distance has the least absolute value?

Handwritten: -13ft $|-13| = 13$, $|-33| = 33$, $|22| = 22$

19) Select the number line that shows the locations of $-\frac{25}{8}$, -3.5, and -4.



Evaluate each expression.

20) $|-9|$
 9

21) $|-22| + |6|$
 $22 + 6$
 28

22) $|11 + 8|$
 $|19| = 19$

23) $-(-112)$
 112

24) $-|-39|$
 -39

25) $|-2.5| + |9 + 6.8|$
 $2.5 + |15.8|$
 $2.5 + 15.8 = 18.3$

26) For the following situations, write and evaluate an expression using absolute value to find the distance between the two values.

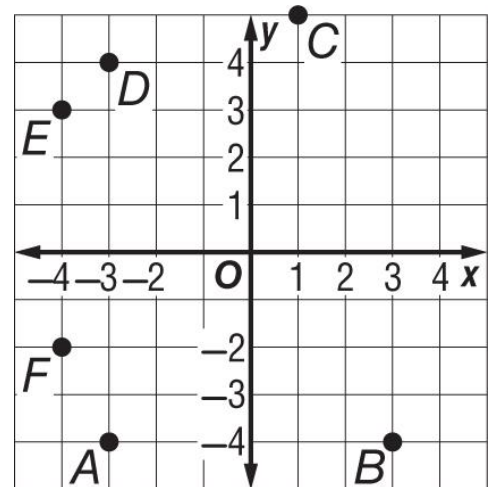
- a) Desert Shores, California has an elevation of -200 feet. Mount Whitney, located in the Sierra Nevada range in California, has an elevation of 14,505 feet. Use absolute value to find the distance between these two elevations.

$(-)$
 $|-200| + |14,505|$ $200 + 14,505 = 14,705 \text{ ft}$

- b) Alec and Shawn are playing Jeopardy. Alec currently has -300 points and Shawn has -800 points. Using absolute value, what is the difference between their scores?

$(+)$
 $|-300| = 300$ $800 - 300 = 500 \text{ points}$
 $|-800| = 800$

For Exercises 27–32, use the coordinate plane below.



- 27) Identify the point for the ordered pair (3, -4).

B

- 28) Write the ordered pair that names point C.

$(1, 5)$

- 29) Write the ordered pair that names point F.

$(-4, -2)$

- 30) Write the ordered pair that represents the reflection of point E across the y-axis.

$E'(4, 3)$

- 31) In which quadrant is the point (2, -2) located?

IV

- 32) Which expression represents the distance from point A to point D?

A) $|-3| + |-4|$ B) $|-4| + |4|$ C) $|-4| - |4|$ D) $|-3| + |4|$

For questions 33 – 37, use the coordinate plane to the right.

33) Plot $J(0, -3.25)$ on the coordinate plane.

34) Plot $K(-2\frac{1}{2}, 3\frac{1}{3})$ on the coordinate plane.

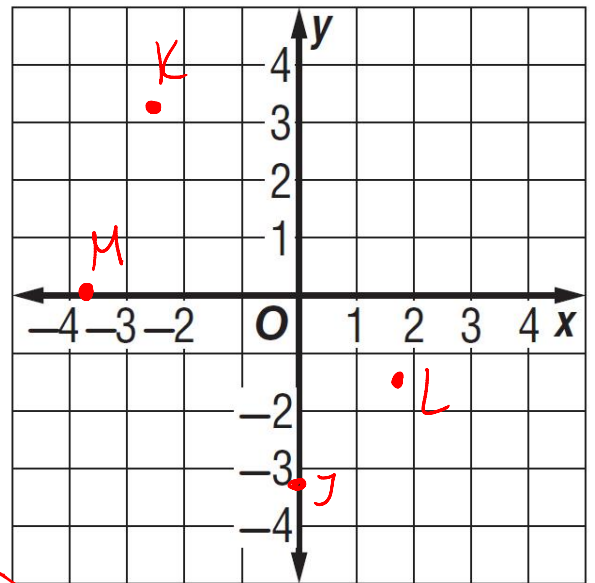
35) Plot $L(1.75, -1\frac{1}{2})$ on the coordinate plane.

36) Plot $M(-3\frac{2}{3}, 0)$ on the coordinate plane.

37) Write the ordered pair that represents the reflection of point L across the x -axis. Then provide the distance between the original and reflected point.

$$(1.75, 1\frac{1}{2}) \quad | -1\frac{1}{2} | + | 1\frac{1}{2} |$$

$$= 1\frac{1}{2} + 1\frac{1}{2} = 3 \text{ units}$$



For Exercises 38 – 40, use the coordinate plane below that represents the location of a swimming pool.

38) An oak tree is located at the reflection of point B across the x -axis. What ordered pair describes the location of the oak tree?

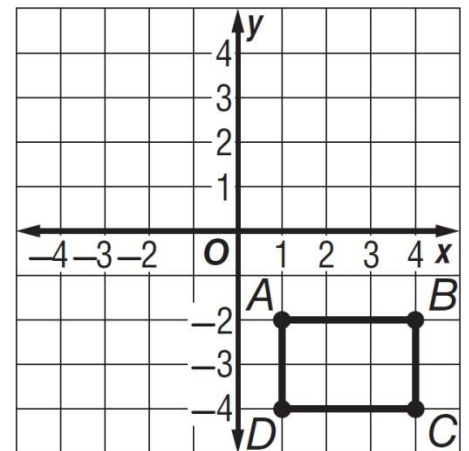
$$(4, 2)$$

39) A sprinkler is located at the reflection of point C across the y -axis. What ordered pair describes the location of the sprinkler?

$$(-4, -4)$$

40) A fire pit is located at the reflection of point D about the y -axis. What ordered pair describes the location of the fire pit?

$$(-1, -4)$$



41) Some point E that is not shown was reflected across the x -axis. The reflected point is at $(-6.5, 3.75)$. Write the ordered pair that represents the original point.

$$(-6.5, -3.75)$$

42) **CCSS Reason Abstractly** Explain why an account balance less than -40 dollars represents a debt greater than 40 dollars.

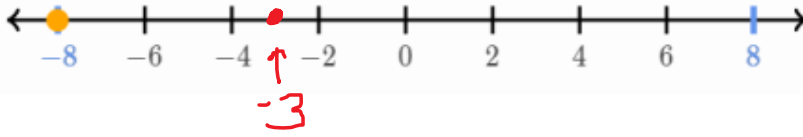
A number less than -40 is further to left of -40 on a number line and therefore has a greater absolute value. $|-45| = 45$ in debt

43)

$B = -3$

$-(-B) = B = -3$

Move the ~~orange~~ dot to $-(-B)$ on the number line.



44)

We want the following inequality to be true:

$x < |-3|$

Which of the following are possible values for x ?

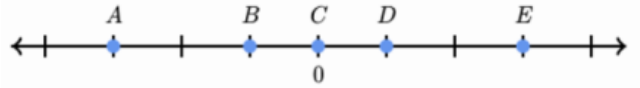
Select all that apply.

$x = -8$

$x = 0$

$x = 4$

45)



What can we say about A ?

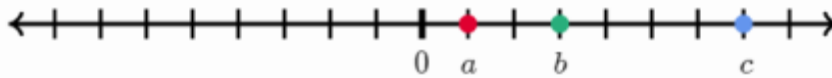
Select all that apply.

A is the opposite of E

$A = -D$

$A = -(-A)$

46)



Which of the following inequalities is correct?

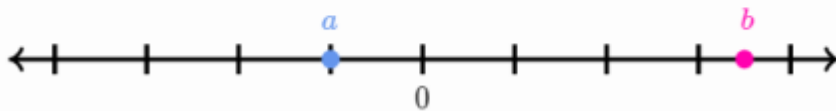
$-c < b$

$c < 0$

$-c > -a$

47)

Use the following number line to determine if the expressions are true or false.



	True	False
$a < b$	<input checked="" type="radio"/>	<input type="radio"/>
$ a > b$	<input type="radio"/>	<input checked="" type="radio"/>
$a < b $	<input checked="" type="radio"/>	<input type="radio"/>

48) The ordered pair (a, b) gives the location of point P on the coordinate plane. The value of b is negative. The value of a is *not* 0.

Where could point P be located on the coordinate plane?

Select all that apply.

- Quadrant I
- Quadrant IV
- Quadrant II
- x -axis
- Quadrant III
- y -axis

49) The Cayman trough has an elevation of $-7\frac{7}{10}$ kilometers. The Mariana trench has an elevation of $-10\frac{9}{10}$ kilometers. Note that both places have negative elevations because they are below sea level.

Drag the white cards onto the gray rectangle to write an inequality that correctly compares the elevations.

$$-10\frac{9}{10} < -7\frac{7}{10}$$

Which one of the following descriptions is correct?

- The Mariana trench has a lower elevation than the Cayman trough.
- The Cayman trough has a lower elevation than the Mariana trench.

50) Point M is located at $(-7, 0)$.

What is located 6 units from point M ?

- Point A
- Point B
- Point C

