

Grade 6 Mod 1 and Grade 7 Mods 3 and 4

1) The low temperature in Muskegon, Michigan was 20 degrees below zero. The high temperature was 97 degrees. Represent these situations as rational numbers.

- A) 20, 97 B) -20, -97 C) -20, 97 D) 20, -97

2) Which situation represents -35? *NEGATIVE = DECREASE*

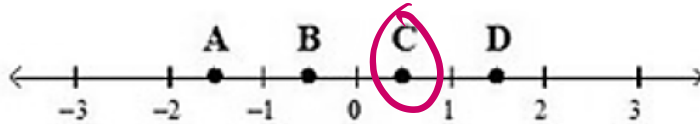
- A) An increase of \$35 in your bank account. B) The temperature on a warm, sunny day.
 C) A decrease of \$35 in your bank account D) A gain of 35 points in a basketball game.

3) Steve recorded the temperatures from the last few nights. What temperatures were warmer than -15 degrees?

(Select ALL that apply)

- A) 0 degrees B) -20 degrees C) -17 degrees D) 6 degrees E) -10 degrees

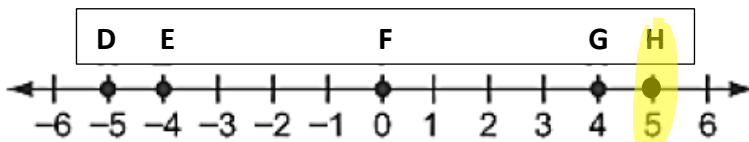
4) Which point on the number line represents the opposite of -0.5?



- A) A B) B C) C D) D

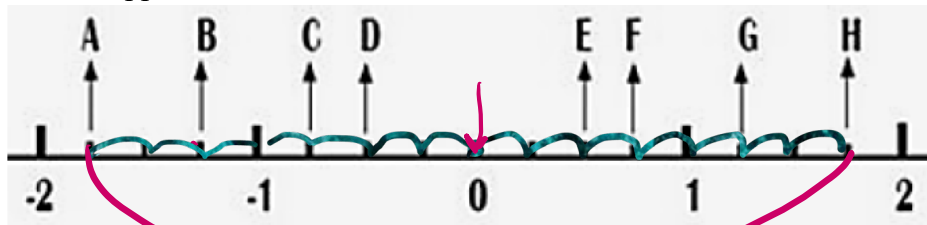
*$-0.5 = -\frac{1}{2}$
 opposite of $-\frac{1}{2}$
 is positive $\frac{1}{2}$*

5) Which point on the number line below represents the opposite of -5?



- D) D E) E F) F G) G H) H

6) Which set of letters are opposites?



- A) B and E B) A and H C) C and G D) B and C

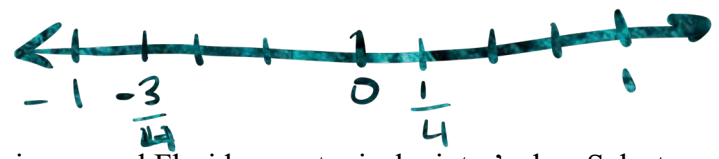
7) The integer -9 is located to the right of -15 on the number line, because it indicates that $-9 > -15$

A) B) C)

8) Looking at $-\frac{3}{4}$ and $\frac{1}{4}$ on a number line, which of the following is true? (Select all that apply.)

- A) $-\frac{3}{4}$ is less than $\frac{1}{4}$ B) $-\frac{3}{4}$ is greater than $\frac{1}{4}$ C) $-\frac{3}{4}$ is closer to 0 on a number line than $\frac{1}{4}$
- D) $\frac{1}{4}$ is closer to 0 on a number line than $-\frac{3}{4}$ E) $-\frac{3}{4}$ is to the left of $\frac{1}{4}$ on a number line.

$-\frac{3}{4}$ is to the right of $\frac{1}{4}$ on a number line.



9) The table below shows the temperature of Hawaii, Arizona, and Florida on a typical winter's day. Select **all the statements** that correctly compare the temperatures of Hawaii, Arizona, and Florida.

Temperature on a typical Winter Day	
Michigan	- 5 degrees
Vermont	- 15 degrees
Florida	60 degrees

- A) On this day Vermont's temperature is warmer than Michigan's temperature.
- B) On this day Florida's temperature is warmer than Vermont's temperature.
- C) On this day Michigan's temperature is 5 degrees below zero.
- D) On this day, Vermont's temperature is the coldest.

10) Which number is **furthest from 0** on a number line?

- A) $|17|$ B) $|-25|$ C) $|-30|$ D) $|27|$
- 17 25 30 27

Distance from Zero = Absolute Value

11) Which statement correctly compares $|8|$ and $|-9.5|$?

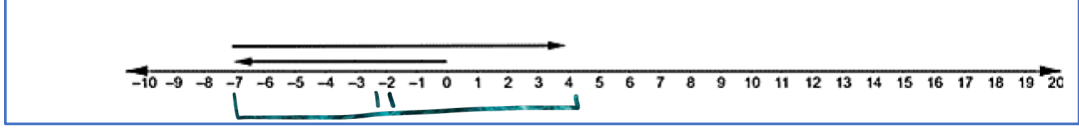
- A) $|8|$ is greater than $|-9.5|$ because it is positive. B) $|8|$ is less than $|-9.5|$ because it is positive.
- C) $|8|$ is greater than $|-9.5|$ because the distance between them is positive.
- D) $|8|$ is less than $|-9.5|$ because it is closer to 0 on a number line.

$$|8| \quad | -9.5 |$$

$$\downarrow \quad \downarrow$$

$$8 < 9.5$$

12) The diagram shows the temperatures of a city at two different points in time.



Part A: The final temperature of the city was? **Part B:** The final temperature can be calculated using which addition expression?

- A. -7°C
- B. -3°C
- C. 4°C
- D. 11°C
- A. $7+4$
- B. $-7+11$
- C. $4+(-7)$
- D. $4+(-11)$

$$-7 + 11 = 4$$

13) . In which of these situations, do the two quantities combine to make 0? Select all that apply.

↳ opposite s

- A. An airplane at 3,000 feet gains 3,000 feet.
- B. A diver at -40 feet under the sea rises 40 feet.
- C. A submarine at -340 feet under dives 340 feet.
- D. An octopus at -38 feet underwater rises 38 feet.
- E. A hawk at 120 feet above the ground dives 120 feet.

descends

14) . Select all the expressions equivalent to $-143 - (55)$.

- ~~A. 88~~
- ~~B. 88~~
- C. -198
- ~~D. 198~~
- E. $-55 - 143$
- ~~F. $55 + 143$~~
- G. $-143 + (-55)$
- ~~H. $-143 + 55$~~

$$\begin{array}{c}
 \downarrow \downarrow \downarrow \\
 -143 + (-55) = -198 \\
 \text{owe} \quad \text{owe} \quad \text{owe}
 \end{array}$$

15) . The table shows the elevations of four sea animals.

Dolphin	3 feet
Fish	-2 feet
Octopus	-12 feet
Starfish	-8 feet

Part A: The dolphin is?

- A. At sea level
- B. Below sea level
- C. Above sea level
- D. None of the above

Part B: The animal that is closest to sea level has an elevation of feet.

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