

- | | | | |
|--------------------|-------|------------------------|-------|
| 1. $-(-6) =$ | _____ | 9. $-(-(-7)) =$ | _____ |
| 2. $-(-14) =$ | _____ | 10. $-(-(-(-20))) =$ | _____ |
| 3. $-(-(-3)) =$ | _____ | 11. $-(-33) =$ | _____ |
| 4. $-(-(-(-8))) =$ | _____ | 12. $-(-(-(-(-4)))) =$ | _____ |
| 5. $-(-25) =$ | _____ | 13. $-(-(-16)) =$ | _____ |
| 6. $-(-(-11)) =$ | _____ | 14. $-(-(-(-9))) =$ | _____ |
| 7. $-(-(-(-5))) =$ | _____ | 15. $-(-42) =$ | _____ |
| 8. $-(-19) =$ | _____ | | |

Study Tips

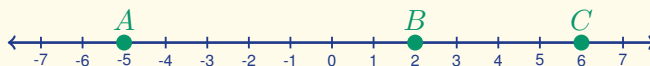
- 👉 Two negatives always cancel: $-(-n) = n$. Count the minus signs — even count gives positive, odd count gives negative.
- 👉 The opposite of zero is zero: $-(0) = 0$.
- 👉 On any number line, moving **left** decreases the value; moving **right** increases it.

Word Problems

16. Marcus and his sister are playing a golf-themed board game where each player's score is tracked relative to par. Marcus's score is 5 strokes *under* par and his sister's score is 3 strokes *over* par. Write an integer for each score. In golf, the player with the *lower* score wins — who is winning, and by how many strokes?

17. A weather station records a high temperature of 12°F for one afternoon. That same night, the low temperature is the exact opposite of the afternoon high. During the early morning, the temperature drops an additional 7 degrees below the overnight low. Write an integer for the overnight low and for the early-morning temperature. By how many degrees did the temperature change from the afternoon high to the early-morning reading?

18. Three points are plotted on the number line shown here. Identify the integer for each point, find the opposite of point *B*, and find the distance from point *A* to point *C*.



Answer Keys

- | | |
|--|---|
| <p>1) 6</p> <p>2) 14</p> <p>3) -3</p> <p>4) 8</p> <p>5) 25</p> <p>6) -11</p> <p>7) 5</p> <p>8) 19</p> <p>9) -7</p> <p>10) 20</p> <p>11) 33</p> | <p>12) -4</p> <p>13) -16</p> <p>14) 9</p> <p>15) 42</p> <p>16) Marcus -5, Sister $+3$; Marcus wins by 8 strokes.</p> <p>17) Low -12°F; early morning -19°F; change 31°F</p> <p>18) $A = -5$; $B = 2$; $C = 6$; opposite of B: -2; distance A to C: 11</p> |
|--|---|

Step-by-Step Explanations

Strategy: For Understanding Integers and the Number Line, use the number line as the home base: locate the value, decide whether the problem asks for an opposite or a distance, and only then simplify. The strongest work shows the direction of the move before giving the number.

Practice 1: $-(-6) =$ **Answer:** 6

Read the outside negative as “take the opposite”; the opposite of -6 is 6.

Practice 15: $-(-42) =$ **Answer:** 42

Read the outside negative the same way; the opposite of -42 is 42.

Word-problem notes:

16. Answer: Marcus -5 , Sister $+3$; Marcus wins by 8 strokes.

“Under par” means negative, so Marcus’s score is -5 . “Over par” means positive, so his sister’s score is $+3$. In golf, the lower score wins, and -5 is less than $+3$ because it is farther left on the number line. To find how far apart the scores are, compute $3 - (-5) = 3 + 5 = 8$.

17. Answer: Low $= -12^{\circ}\text{F}$; early morning $= -19^{\circ}\text{F}$; change $= 31^{\circ}\text{F}$

The opposite of 12 is -12 , so the overnight low is -12°F . Then the temperature drops 7 more degrees, so $-12 - 7 = -19^{\circ}\text{F}$. To find the total change from 12°F to -19°F , count the drop to zero and then below zero: $12 + 19 = 31$ degrees. So the temperature dropped 31°F altogether.

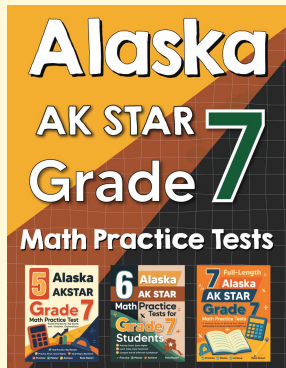
18. Answer: $A = -5$; $B = 2$; $C = 6$; opposite of B is -2 ; distance A to $C = 11$.

Read each integer directly from the number line: A is at -5 , B is at 2, and C is at 6. The opposite of 2 is -2 . To find the distance between A and C , count the units from -5 to 6: that is 5 units to reach 0, then 6 more units to reach 6, for a total of 11 units.



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