

Graphing Linear Equations Answers and Explanations

Answer Key

1. B 2. A 3. B 4. B 5. D 6. B 7. A 8. C 9. A 10. B

Answer Explanations

1. **B.** First, we must find the slope of the line that is graphed. Notice that the line goes up 3 units up and 2 units to the right, indicating that it has a positive slope of $\frac{3}{2}$. Also, the line has a y-intercept of $(0, -3)$. All of the answer choices are in $y = mx + b$ form, so we just need to pick the one that correlates to the information we gathered which is B.

2. **A.** The slope of the current line is $-\frac{5}{3}$. If a line is being translated up 3 units and left 5 units, the slope will not change. Thus, the new line will still have the same slope. A is our answer.

3. **B.** For every 3 minutes the airplane is in flight, it rises 2,000 feet. In the measures of our graph, this means that the slope of this linear graph will be B, $\frac{2}{3}$.

4. **B.** The diagonals of a rhombus will always be perpendicular to one another. This means that if line AC has a slope of $\frac{1}{5}$, then the slope of line BD will be the negative reciprocal of $\frac{1}{5}$, which is -5. So, the answer is B.

5. **D.** For this question, we just simply need to find the slope of the line. For every 3 hours, the cost of the kayak rental goes up \$20, meaning the slope is D, $\frac{20}{3}$.

6. **B.** The slope of line S is 2. A line perpendicular to line S would therefore have a slope that is the inverse to that. The answer is then B

7. **A.** The problem states that the two lines are parallel to one another. This means that they share the same slope. If the slope of the line with the known points are $-\frac{3}{4}$, then that means the bottom line will also have the same slope. We can create an equation for the line and then find the x-intercept that way.

$$y = -\frac{3}{4}x - 7$$

$$0 + 7 = -\frac{3}{4}x$$

$$-\frac{28}{3} = x$$

$$x = -9\frac{1}{3}$$

8. **A.** A line parallel to line B would be perpendicular to line A. This means that the slope of a line parallel to B must be -3.

9. **B.** When we distribute the $\frac{3}{2}$ in choice B, the slope of the line is 3, which would be parallel to $y = 3x + 12$.