Quiz 1.6: Equation of a Line

Multiple Choice: *Choose the letter that corresponds to the correct answer. Write the answer in your answer sheet.*

1. Which of the following is the two-point form formula?
   A. $\frac{x}{a}+\frac{y}{b}=1$ B. $y=mx+b$ C. $y-y_1=m(x-x_1)$ D. $y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$
2. What is the trend of the graph whose slope is undefined?
   A. Falls from left to right B. Rises from left to right C. Horizontal line D. Vertical line
3. The formula $y-y_1=m(x-x_1)$ is called:
   A. Point-Slope Form B. Two-Point Form C. Slope-Intercept Form D. Intercept Form
4. How do we find the x-intercept?
   A. Let $x=0$ and solve for x
   B. Let $y=0$ and solve for y
   C. Let $x=0$ and solve for y
   D. Let $y=0$ and solve for x
5. What is the trend of the graph whose intercepts have different signs?
   A. Falls from left to right B. Rises from left to right C. Horizontal line D. Vertical line
6. Which formula should we use to find the equation of a line whose intercepts are given?
   A. Point-Slope Form B. Two-Point Form C. Slope-Intercept Form D. Intercept Form
7. What is the x-intercept of the line whose equation is $x=7$?
   A. undefined B. 0 C. 7 D. real number
8. Which formula should we use to find the equation of a line whose x- and y-intercepts are given?
   A. $\frac{x}{a}+\frac{y}{b}=1$ B. $y=mx+b$ C. $y-y_1=m(x-x_1)$ D. $y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$
9. What is the trend of the line whose equation is $y=-3x-5$?
   A. Falls from left to right B. Rises from left to right C. Horizontal line D. Vertical line
10. Which formula should we use to find the equation of a line whose slope and a point are given?
    A. Point-Slope Form B. Two-Point Form C. Slope-Intercept Form D. Intercept Form
11. Determine the slope of the equation $6x+3y=9$ and describe the graph.
    A. $m=2$, Rising B. $m=-2$, Falling C. $m=3$, Falling D. $m=-3$, Rising
12. Determine the slope of the linear equation $-4y-8=0$ and describe the graph.
    A. $m=-4$, Falling B. $m=0$, Horizontal C. $m=8$, Rising D. $m=undefined$, Vertical
13. Find the equation of the line that passes through the points $(2,3) and (5,8)$.
    A. $y=\frac{5}{3}x-\frac{1}{3}$ B. $y=\frac{5}{3}x+\frac{1}{3}$ C. $y=\frac{5}{3}x-\frac{2}{3}$ D. $y=\frac{5}{3}x+\frac{2}{3}$
14. Write the equation of the line given the intercepts $a=3; b=-4$.
    A. $4x+2y=12$ B. $4x-2y=12$ C. $4x+3y=12$ D. $4x-3y=12$
15. Determine the intercepts of the equation $6x+3y=12$ and describe the graph.
    A. $a=-2, b=4$, Rising B. $a=-2, b=-4$, Falling C. $a=2, b=4$, Falling D. $a=2, b=-4$, Rising

Answer Key

1. Which of the following is the two-point form formula?

   Solution:

   A. $\frac{x}{a}+\frac{y}{b}=1$ B. $y=mx+b$ C. $y-y_1=m(x-x_1)$ D. $y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$

2. What is the trend of the graph whose slope is undefined?

   Solution:

   A. Falls from left to right B. Rises from left to right C. Horizontal line D. Vertical line

3. The formula $y-y_1=m(x-x_1)$ is called:

   Solution:

   A. Point-Slope Form B. Two-Point Form C. Slope-Intercept Form D. Intercept Form

4. How do we find the x-intercept?

   Solution:

   A. Let $x=0$ and solve for xB. Let $y=0$ and solve for yC. Let $x=0$ and solve for yD. Let $y=0$ and solve for x

5. What is the trend of the graph whose intercepts have different signs?

   Solution:

   A. Falls from left to right B. Rises from left to right C. Horizontal line D. Vertical line

6. Which formula should we use to find the equation of a line whose intercepts are given?

   Solution:

   A. Point-Slope Form B. Two-Point Form C. Slope-Intercept Form D. Intercept Form

7. What is the x-intercept of the line whose equation is $x=7$?

   Solution:

   A. undefined B. 0 C. 7 D. real number

8. Which formula should we use to find the equation of a line whose x- and y-intercepts are given?

   Solution:

   A. $\frac{x}{a}+\frac{y}{b}=1$ B. $y=mx+b$ C. $y-y_1=m(x-x_1)$ D. $y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$

9. What is the trend of the line whose equation is $y=-3x-5$?

   Solution:

   A. Falls from left to right B. Rises from left to right C. Horizontal line D. Vertical line

10. Which formula should we use to find the equation of a line whose slope and a point are given?

    Solution:

    A. Point-Slope Form B. Two-Point Form C. Slope-Intercept Form D. Intercept Form

11. Determine the slope of the equation $6x+3y=9$ and describe the graph.

    Solution:

    A. $m=2$, Rising B. $m=-2$, Falling C. $m=3$, Falling D. $m=-3$, Rising

12. Determine the slope of the linear equation $-4y-8=0$ and describe the graph.

    Solution:

    A. $m=-4$, Falling B. $m=0$, Horizontal C. $m=8$, Rising D. $m=undefined$, Vertical

13. Find the equation of the line that passes through the points $(2,3)and(5,8)$.

    Solution:

    A. $y=\frac{5}{3}x-\frac{1}{3}$ B. $y=\frac{5}{3}x+\frac{1}{3}$ C. $y=\frac{5}{3}x-\frac{2}{3}$ D. $y=\frac{5}{3}x+\frac{2}{3}$

14. Write the equation of the line given the intercepts $a = 3; b = -4$.

Solution:

A. $4x + 2y = 12$ B. $4x - 2y = 12$ C. $4x + 3y = 12$ D. $4x - 3y = 12$

15. Determine the intercepts of the equation $6x + 3y = 12$ and describe the graph.

Solution:

A. $a = -2, b = 4$, Rising B. $a = -2, b = -4$, Falling C. $a = 2, b = 4$, Falling D. $a = 2, b = -4$, Rising