

Algebra IA - Point slope and Standard Form PRACTICE**Multiple Choice**

Identify the letter of the choice that best completes the statement or answers the question.

Find the x - and y -intercept of the line.

- _____ 1. $2x + 3y = -18$
 a. x -intercept is 18; y -intercept is 18. c. x -intercept is 2; y -intercept is 3.
 b. x -intercept is -6 ; y -intercept is -9 . d. x -intercept is -9 ; y -intercept is -6 .
- _____ 2. $-3x + 9y = 18$
 a. x -intercept is 2; y -intercept is -6 . c. x -intercept is -6 ; y -intercept is 2.
 b. x -intercept is -3 ; y -intercept is 9. d. x -intercept is 9; y -intercept is -3 .

Write an equation in point-slope form for the line through the given point with the given slope.

- _____ 3. $(4, -6)$; $m = \frac{3}{5}$
 a. $y + 6 = \frac{3}{5}x - 4$ c. $y + 6 = \frac{3}{5}(x - 4)$
 b. $y - 6 = \frac{3}{5}(x + 4)$ d. $y - 4 = \frac{3}{5}(x + 6)$
- _____ 4. $(10, -9)$; $m = -2$
 a. $y - 10 = -2(x + 9)$ c. $y - 9 = -2(x - 10)$
 b. $y - 9 = -2(x + 10)$ d. $y + 9 = -2(x - 10)$
- _____ 5. A line passes through $(1, -5)$ and $(-3, 7)$.
 a. Write an equation for the line in point-slope form.
 b. Rewrite the equation in slope-intercept form.
 a. $y - 5 = 3(x + 1)$; $y = 3x + 8$ c. $y - 5 = \frac{1}{3}(x + 1)$; $y = \frac{1}{3}x + \frac{16}{3}$
 b. $y - 1 = \frac{1}{3}(x + 5)$; $y = \frac{1}{3}x + \frac{8}{3}$ d. $y + 5 = -3(x - 1)$; $y = -3x - 2$
- _____ 6. A line passes through $(2, -1)$ and $(8, 4)$.
 a. Write an equation for the line in point-slope form.
 b. Rewrite the equation in standard form using integers.
 a. $y + 1 = \frac{5}{6}(x - 2)$; $-5x + 6y = -16$ c. $y + 1 = \frac{5}{6}(x + 2)$; $-5x + 6y = -16$
 b. $y - 1 = \frac{5}{6}(x - 2)$; $-5x + 6y = 16$ d. $y - 2 = \frac{5}{6}(x + 1)$; $-5x + 6y = 17$

Is the relationship shown by the data linear? If so, model the data with an equation.

_____ 7.

| x | y |
|-----|-----|
| -9 | -2 |
| -5 | -7 |
| -1 | -12 |
| 3 | -17 |

- a. The relationship is linear; $y + 2 = \frac{4}{5}(x + 9)$.
- b. The relationship is linear; $y + 9 = -\frac{4}{5}(x + 2)$.
- c. The relationship is not linear.
- d. The relationship is linear; $y + 2 = -\frac{5}{4}(x + 9)$.

_____ 8.

| x | y |
|-----|-----|
| 3 | 1 |
| 7 | 2 |
| 11 | 3 |
| 18 | 5 |

- a. The relationship is not linear.
- b. The relationship is linear; $y + 2 = \frac{1}{4}(x - 7)$.
- c. The relationship is linear; $y - 2 = \frac{1}{4}(x + 7)$.
- d. The relationship is linear; $y + 2 = -\frac{1}{4}(x - 7)$.

Name: _____

ID: A

- _____ 9. The table shows the height of a plant as it grows.
- Model the data with an equation.
 - Based on your model, predict the height of the plant at 12 months.

| Time (months) | Plant Height (cm) |
|---------------|-------------------|
| 3 | 9 |
| 5 | 15 |
| 7 | 21 |
| 9 | 27 |

a. $y - 3 = \frac{3}{2}(x - 9)$; 39 cm

b. $y - 9 = 3(x - 3)$; 36 cm

c. $y - 9 = \frac{3}{2}(x - 3)$; 18 cm

d. The relationship cannot be modeled.