

Name _____

All work must be shown to receive credit for each problem.

1. Determine the slope and the y-intercept for $3x - 5y = 29$.

(A) $m = \frac{3}{5}, \left\langle 0, -\frac{29}{5} \right\rangle$

(C) $m = -\frac{3}{5}, \left\langle 0, -\frac{19}{5} \right\rangle$

(B) $m = \frac{5}{3}, \left\langle 0, -\frac{19}{5} \right\rangle$

(D) $m = -\frac{3}{5}, \left\langle 0, -\frac{29}{5} \right\rangle$

2. Find the slope of the line through the points $\langle -3, -5 \rangle, \langle -4, -2 \rangle$.

(A) $-\frac{1}{3}$

(B) $\frac{3}{10}$

(C) -3

(D) 3

3. Which of these points does **not** lie on the graph of $y = -3x - 4$?

(A) $\langle 0, -4 \rangle$

(B) $\langle 1, -1 \rangle$

(C) $\langle -1, -1 \rangle$

(D) $\langle -2, 2 \rangle$

4. Find the intersection of the lines $y = 3x + 5$ and $y = -x + 1$

(A) $\langle 1, 1 \rangle$

(B) $\langle 1, 2 \rangle$

(C) $\langle -1, 1 \rangle$

(D) $\langle -1, 2 \rangle$

5. Write an equation in slope-point form for the line that passes through $\langle -2, 4 \rangle$ and $\langle -9, 6 \rangle$

(A) $y = -\frac{2}{7}x + \frac{38}{7}$

(B) $y = -\frac{2}{7}x - \frac{24}{7}$

(C) $y = -\frac{2}{7}x + \frac{24}{7}$

(D) $y = \frac{2}{7}x - \frac{46}{7}$

6. Write this equation in slope-intercept form: $10x + 3y - 4 = 0$.

(A) $y = \frac{10}{3}x + \frac{4}{3}$

(B) $y = -\frac{10}{3}x + \frac{4}{3}$

(C) $y = \frac{10}{3}x - \frac{4}{3}$

(D) $y = -\frac{10}{3}x - 4$

7. Find the exact distance between the two ordered pairs $\langle 0, 5 \rangle$ and $\langle 7, 9 \rangle$.

(A) $\sqrt{65}$

(B) $\sqrt{33}$

(C) $\sqrt{7}$

(D) $\sqrt{5}$

8. Which one of the following is the standard form of the equation of the circle whose center is at $\langle 0, 5 \rangle$ the radius is 4?

(A) $(x - 5)^2 + (y + 1)^2 = 2$

(C) $(x - 5)^2 + (y + 1)^2 = 16$

(B) $(x + 5)^2 + (y - 1)^2 = 2$

(D) $(x + 5)^2 + (y - 1)^2 = 16$

9. If y varies directly as u and varies inversely as the square of v , and $7 = y$ when $9 = u$ and $6 = v$, then the constant of variation is

(A) $\frac{7}{9}\sqrt{6}$ (B) $\frac{7}{4}$ (C) $\frac{28}{9}$ (D) 28

10. State the domain of the following function $f(x) = \frac{5}{\sqrt{x+7}}$

(A) $x > -7$ (B) $x \geq -7$ (C) \mathbb{R} (D) $\mathbb{R} - \{-7\}$

11. What is the range of $f(x) = 2^{x+3} - 1$

(A) \mathbb{R} (B) $x > -1$ (C) $x > -3$ (D) $x > 3$

12. When the system of linear equations is solved, what is the x -value of the solution?

$$6x + 7y = -10$$

$$-2x - 8y = -8$$

(A) $\frac{-26}{17}$ (B) $\frac{-34}{5}$ (C) $\frac{-9}{2}$ (D) -4

13. Find the slope of the line described: A line perpendicular to $3x - 2y - 5 = 0$.

(A) $\frac{-3}{2}$ (B) $-\frac{2}{3}$ (C) $\frac{3}{2}$ (D) $\frac{2}{3}$

14. Which one of the following does **not** define y as a function of x ?

(A) $x^2 + y = 16$ (B) $x = y^2$ (C) $x + y = 3$ (D) $y = (x - 3)^2 + 1$

15. Determine whether the following equation has any types of symmetry: $x^2 + y^3 = 16$

(A) origin (B) x -axis (C) y -axis (D) all three