

- **Use a scientific calculator when you need to. NO graphing calculators!**

2. Simplify:

$$3(6x - 5) - [3(1 - 8x) + 5]$$

3. Simplify according to Properties of Exponents. Do not use negative exponents in the answer.

$$\left(\frac{-12x^3y^{-2}z^4}{18x^{-3}y^0z^4} \right)^{-2}$$

6. Solve:

$$\frac{1}{3}x + \frac{2}{5} = \frac{4}{15} + \frac{3}{5}x - \frac{2}{3}$$

8. Translate to an algebraic expression:

Five less than twice the sum of three and some number.

9. The perimeter of a rectangle is 92 inches. Its length is 4 inches more than its width. Find the length and the width.

10. If $f(x) = x^2 + 3x + 4$ find $f(-5)$

11. If $f(x) = 2x - 5$ and $g(x) = x^2 - 2x - 7$
find $(f - g)(3)$

12. If $f(x) = \frac{x+3}{5x-2}$ find the domain of $f(x)$

13. Match the formula to its correct name:

_____ $y = mx + b$

_____ $m = \frac{y_2 - y_1}{x_2 - x_1}$

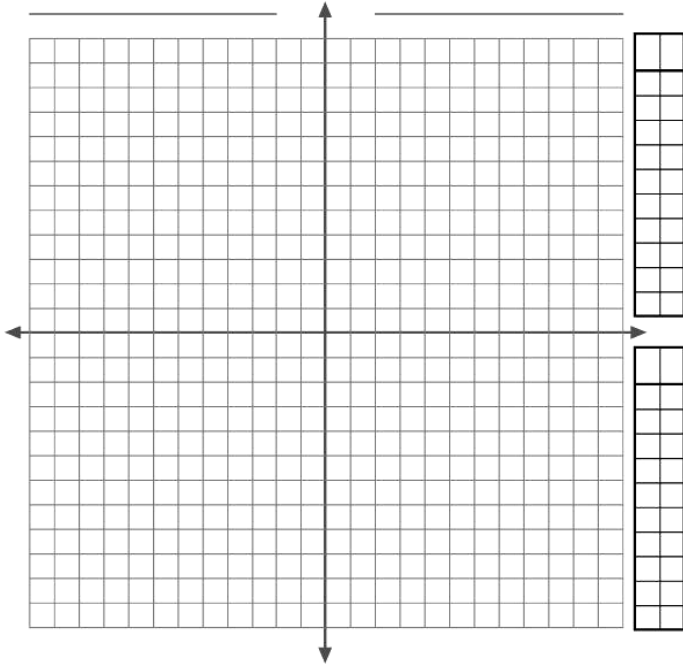
_____ $y - y_1 = m(x - x_1)$

- A. Slope
- B. Standard Form
- C. Point-Slope
- D. Slope-Intercept
- E. Point-Intercept
- F. General Form

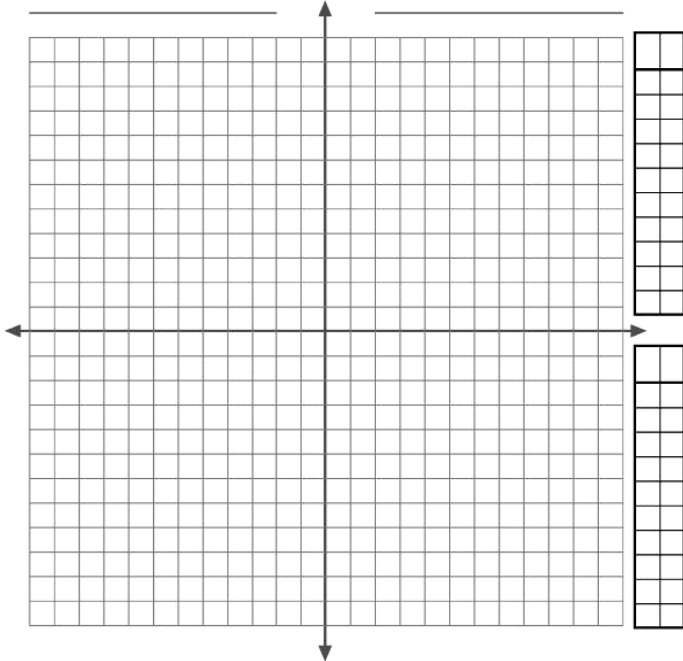
14. For the line $3x - 2y = 6$

- a. Indicate the Slope: _____
- b. Indicate the y-intercept: _____
- c. Indicate the x-intercept: _____

- d. Graph the line:



15. Graph the function: $f(x) = -2x + 4$



18. a. Find the slope of the line through the points $(3, -4)$, and $(-5, 6)$
- b. Find the slope-intercept equation of the line through the points $(3, -4)$, and $(-5, 6)$
- c. Find the function of the line through the points $(3, -4)$, and $(-5, 6)$
19. Find the Slope-Intercept equation of the line through the point $(-4, 5)$ that is parallel to the line $3x + 4y = 8$

20. Find the Slope-Intercept equation of the line through the point $(-4, 5)$ that is perpendicular to the line $3x + 4y = 8$

21. Extra Credit (up to 10 points):

For: $f(x) = x^2 + 3x + 5$

Find and simplify: $\frac{f(x+h) - f(x)}{h}$