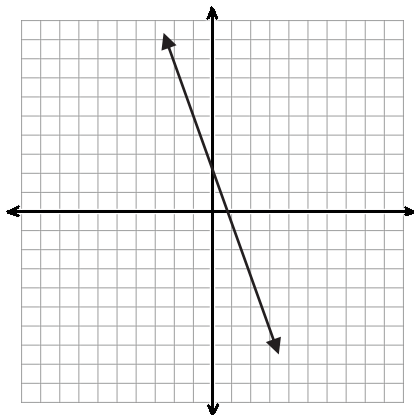


1) Find the slope of the line



Slope: _____

2) Find the slope of the line through the pair of points:

a) $(-3, 6)$ and $(9, -12)$ slope: _____

b) $(8, 6)$ and $(4, -6)$ slope: _____

3) Find the slope of the line

a) $y - 3 = \frac{1}{2}(x - 2)$ slope: _____

b) $5x - 3y = 15$ slope: _____

4) Find the slope of the line parallel to the given line:

a) $y = -\frac{7}{3}x - 3$ slope: _____

b) $4x - 2y = 12$ slope: _____

5) Find the slope of the line perpendicular to the given line:

a) $y = \frac{2}{3}x - 4$ slope: _____

b) $2x + 6y = 12$ slope: _____

6) Find the value of x or y so that the line through the points has the given slope:

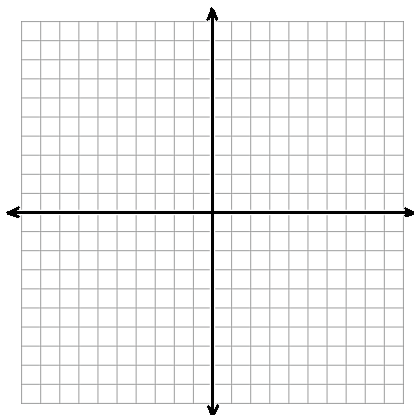
a) $(x, 2)$ and $(-7, -4)$; Slope = 1

b) $(4, y)$ and $(-2, 7)$; Slope of $\frac{1}{2}$

7) Solve the system by Graphing:

$$x = -2 + 2y$$

$$-x - 8 = 4y$$



8) Solve the system by substitution:

$$-x + y = 2$$

$$-8x + 4y = -4$$

9) Solve the system by elimination:

$$\begin{aligned}x + 3y &= 29 \\3x + 2y &= 31\end{aligned}$$

10) Find the distance between each pair of points:

- a) $(-1, -5)$ and $(5, -3)$
- b) $(-3, 6)$ and $(8, 1)$

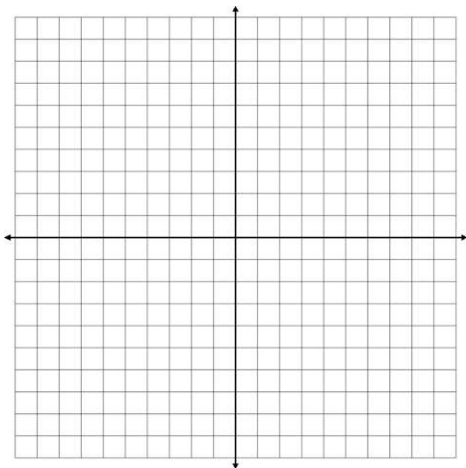
11) Find the midpoint of the line with the given endpoints: $(-9, -9)$ and $(9, 3)$

12) Given the midpoint and one endpoint of a line segment, find the other endpoint.

Endpoint $(5, -2)$; midpoint $(10, -10)$

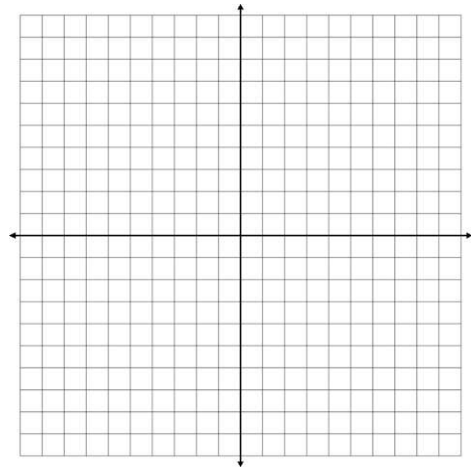
13) Sketch the graph:

$$y = -\frac{2}{5}x - 4$$

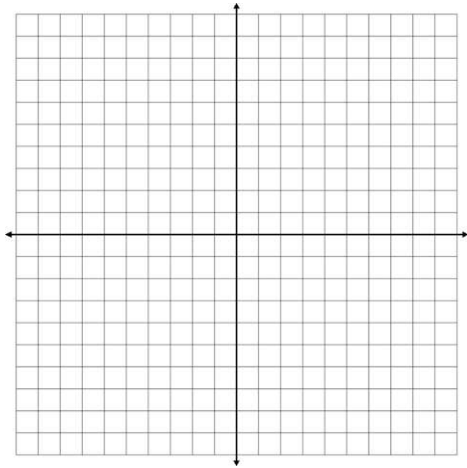


14) Sketch the graph:

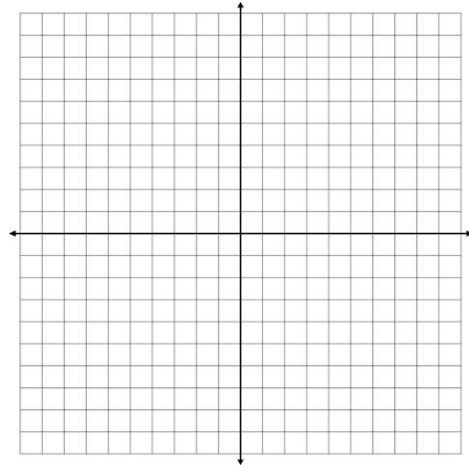
$$2x + 3y = 18$$



- 15) Sketch the graph:
x-intercept = 1 and y-intercept = 2



- 16) Sketch the graph:
 $y = x^2 - 4x - 5$



- 17) Write the equation of the line that passes through (2, 3) and has a slope of $\frac{1}{2}$.

- 18) Write the equation of the line that passes through the points (1, -4) and (4, 5).

19. GIVEN :

$$f(x) = 3x - 1$$
$$g(x) = 2x^2$$

- EVALUATE:
- a) $f(4)$
 - b) $g(-3)$
 - c) $f(-2x^2 + 3)$
 - d) $(f + g)(x)$
 - e) $(g - f)(x)$
 - f) $(f \circ g)(x)$
 - g) $(g \circ f)(-1)$

SUMMER PACKET

Period _____

Factor each completely.

1) $2x^2 - 11x + 14$

2) $4x^2 + 20x$

3) $2x^5 - 9x^3 + 10x$

4) $3m^2 - 8m + 5$

5) $4r^3 - 3r^2 + 20r - 15$

6) $r^2 - 4r + 4$

7) $25r^2 - 1$

8) $81m^4 - 16$

9) $k^4 + 4k^2 + 4$

10) $x^6 - 8x^3 + 16$

Simplify.

11) $\frac{6x - 3}{12}$

12) $\frac{4x^2 + 4x}{x + 1}$

13) $\frac{5k-5}{k^2+k-2}$

14) $\frac{4k^2-2k^3}{k^2-k-2}$

15) $\frac{2x^3-8x^2+6x}{x^3-6x^2+5x}$

16) $\frac{k^2-7k+10}{k^2+2k-8}$

Simplify each expression.

17) $\frac{7n+35}{n+5} \cdot \frac{1}{n-7}$

18) $\frac{2}{r+3} \div \frac{1}{4r+12}$

19) $\frac{9x}{2} \div \frac{x^2+6x-40}{2x-8}$

20) $\frac{m+3}{4m+8} - \frac{m-6}{4m+8}$

21) $\frac{4}{2n} + \frac{6n}{5n-1}$

22) $\frac{5}{a+3} - \frac{6a-4}{2a-1}$