

Summer Packet Geometry CP 2022

Name: _____

Please show all work on the space provided. Be sure to circle your answers. Please bring a completed hard copy of this packet on the first day of school. You will be tested on this after we review it.

Solve each equation.

1) $3x - 6x = -15$

2) $x - 7 - 3 = -12$

3) $-2(-8b - 2) = 84$

4) $147 = -5(1 + 5m) + 6m$

5) $-6(n - 6) - 3(n - 4) = 21$

6) $-7 + r - 7 + 5r = 8 - 5r$

7) $3 - 3p = -7p + 7$

8) $38 + 8r = -8(6 - 6r) + 3r$

9) $-8x - 7(7x + 5) = -4x - 35$

10) $3(-5x - 5) + x = 3 - 2(x + 3)$

Solve the following proportions. Show all your work.

11) $\frac{5}{3x} = \frac{1}{15}$

12) $\frac{x-2}{4} = \frac{x+10}{10}$

13) $\frac{2}{x-3} = \frac{6}{x-2}$

14) $\frac{10}{6x+7} = \frac{6}{2x+9}$

Evaluate each expression for $x = 10$ and $y = -7$:

15) $3x - 4y$

16) $(x + y)^2$

17) $5xy^2$

Evaluate for $x = 4$ and $y = -1$

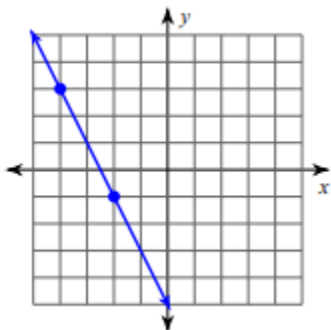
18) $(2x)^3 - 2x^3$

19) $\frac{-3x}{2y}$

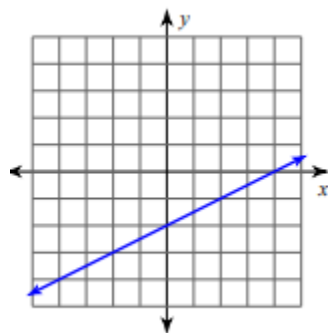
20) $(x - y) + 6x$

Find the slope of the line.

21)



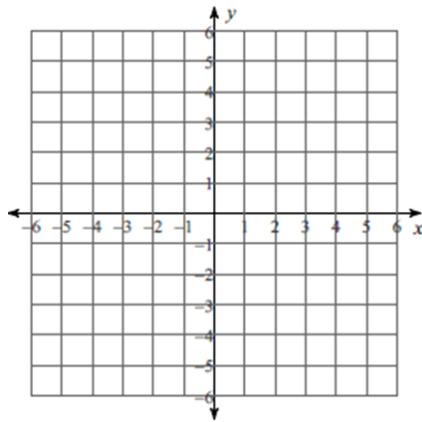
22)



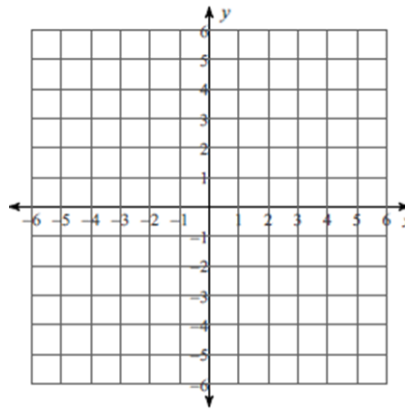
23) $y = \frac{1}{4}x + 3$

Graph the following linear functions.

24) Sketch the graph of $y = \frac{1}{3}x - 4$



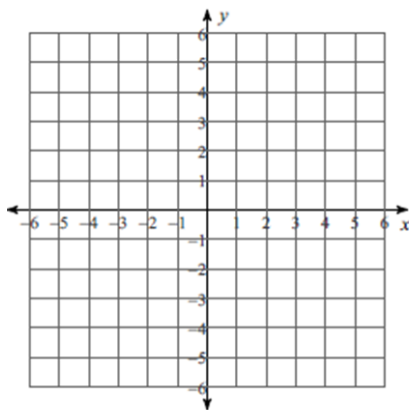
25) Using Slope Intercept Form sketch the graph of $3x - y = 5$



$m =$ _____

$b =$ _____

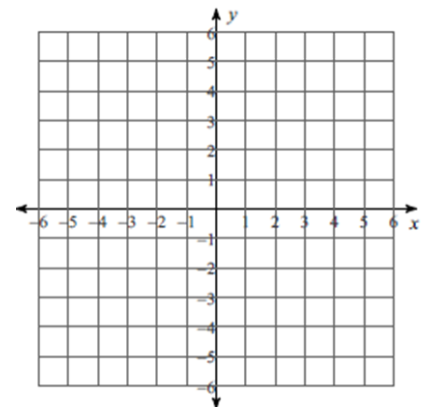
26) Using Slope Intercept Form sketch the graph of $6x + 5y = 5$



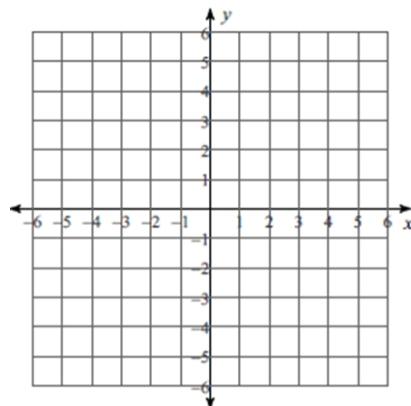
$m =$ _____

$b =$ _____

27) Sketch the graph of the line $x = 2$ and describe its slope.



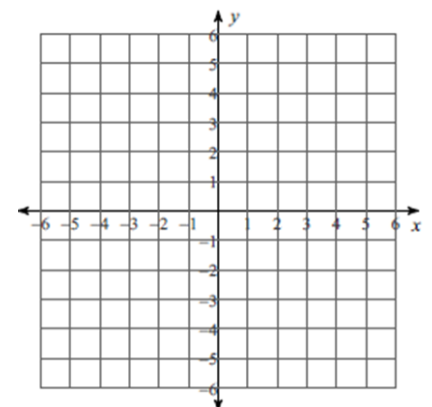
28) Sketch the graph of the line $y = -3$ and describe its slope.



29) Using Slope Intercept Form sketch the graph of both lines and describe their relationship.

$$y = \frac{-1}{2}x$$

$$-2y = x + 10$$



Use exponent properties to simplify each of the following. Be sure that answers do not contain negative exponents!

30) $4x^4y^5 \cdot -5x^2y$

31) $(6x^3y^2)^2$

32) $\frac{12p^7q^6}{18p^4q^{12}}$

33) $x^3x^5x^{-11}$

34) $(2u^{-2})^3$

35) $(6x^3y^2)^0$

Perform the indicated operation.

36) $(x^4 + 6x^2 + 7) + (2x^4 - 3x^2 + 1)$

37) $(7n^3 + 2n^2 - n - 4) - (4n^3 - 3n^2 + 8)$

38) $(3x - 1)(5x + 1)$

39) $(4x - 7)(5x - 2)$

Factor each of the following.

40) $x^2 + 8x + 15$

41) $x^2 - 13x + 36$

42) $x^2 + 4x - 32$

43) $3y^2 + 2y - 4$

44) $5x^2 - 19x - 4$