1. Evaluate this expression: $\frac{7x}{9y}$ *for* $x=\frac{5}{14}$ *and* $y=\frac{5}{36}$

2. Find the reciprocal of $\frac{1}{9}$

3. Simplify: $\frac{14}{21}$

4. Find the prime factorization of 40.

5. Perform the indicated operation: $\frac{13}{18}-\frac{4}{9}$

6. Simplify the following expression: $|-58|$

7. Multiply : $5(2x+3y+4)$

8. Perform the indicated operation: $(8-2\bullet 3)^2$

9. Solve for x: $\frac{2}{3}+\frac{1}{4}x=6$

10. Solve for L: $P=2L+2W$

11. What number is 32% of 240?

12: Graph $-4\le x<3$

13: Solve this inequality for y: $6+5y \ge 26$

14: Find the coordinates of points A,B,C and D.

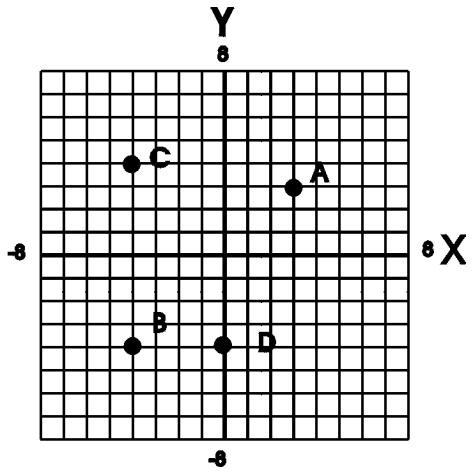
Enter the answers as an ordered pairs ; example: (1,2)

A:_____

B:_____

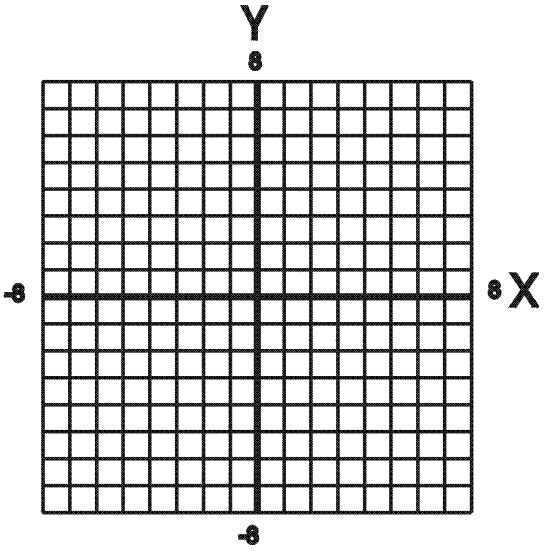
C:_____

D:_____

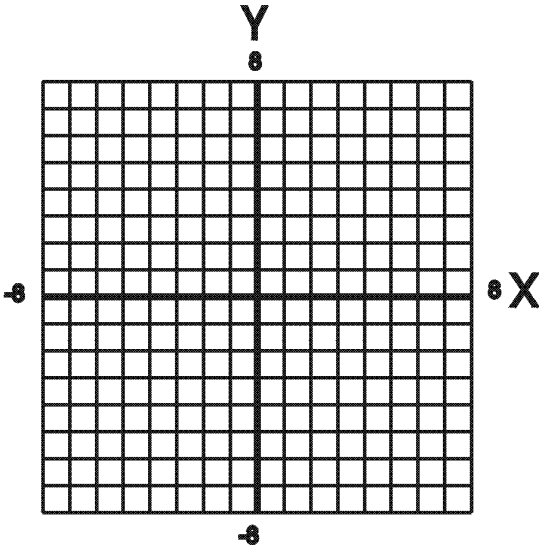


15: Is this ordered pair (4, 2) a solution to this equation 3y + 2x = 12 ?

16. Graph $y = -\frac{1}{2}x$



17: Graph: $8x - 6y = 24$



18: Find the x and y intercepts of this equation and write the answers as ordered pairs:

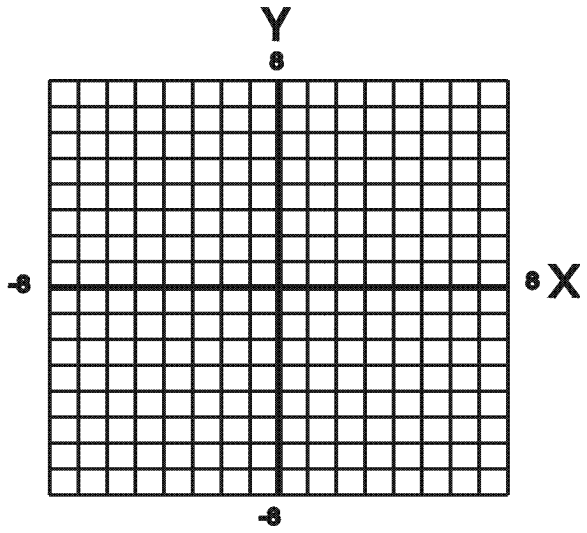
x + 2y = 4

x intercept:_____ y intercept:_____

19: Find the slope of the line containing the following pair of points
(4,5) and (–3,–2)

20: Draw a line that has the given slope and y-intercept:

Slope = m = $-\frac{6}{7}$, and y-intercept (0 , 5)



21: Find the slope and y-intercept for the following equation:

$$y=\frac{8}{9}x-4$$

Slope:_____

y intercept
(Ordered pair)_____

22: Determine whether or not the lines described by this pair of equations are parallel. Then state why they are parallel or why they are not parallel.

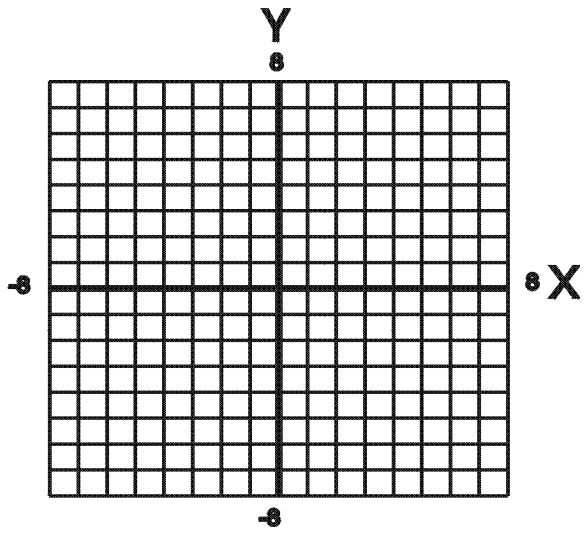
2x + 2 = y 2y = 4x – 9

(a) Are the lines parallel?

(b) Why are they parallel or why are they not parallel?

23: Convert this equation to slope intercept form: $4y-8x+36=0$

24: Draw a line that has slope m = $-\frac{6}{7}$, and passes through the point (2, 5)



25: Multiply: $w^4 \bullet w^2$

26: Divide and simplify $\frac{5^8 m^8}{5^3 m^3}$

27: Evaluate n^0 when n = –18

28: Simplify $\left(3m^{13}n^{12}\right)^2$

29: Evaluate the following polynomial for x = 4 $2x^2 - 3x + 6$

30: Add and write in proper order: $\left(-3x+4\right)+\left(x^2+x-7\right)$

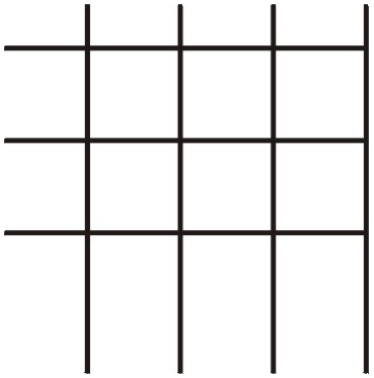
31: Subtract : $\left(5x+6\right)-\left(-3x+7\right)$

32: Multiply : $\left(0.2x^9\right)\left(0.5x^8\right)$

33: Multiply the following: $\left(x+3\right)\left(x-3\right)$

34:Use the Table method to multiply the following
Write answer in proper order.

$$\left(x^2+x+6\right)\left(x-6\right)$$



35: Subtract these polynomials: $(a^3 - b^3) - (-5a^3 + 2a^2b - ab^2 + 3b^3)$

36: Multiply: (xy+7)(xy–4)

37: Multiply: (6x-2y)(5x–3y)

38. Divide : $(18t^3 - 24t^2 + 6t) \div (3t)$

39: Divide: $(8x^2 - 10x + 2) \div 2$

40: Divide: $\dfrac{50x^5 - 7x^4 + x^2}{x}$

41:Divide $\dfrac{x^2-9}{x+3}$

42: Express using positive exponents $\left(\dfrac{a}{b}\right)^{-3}$

43: Multiply (leave answer in scientific notation)

$$\left(1.9\times10^{8}\right)\left(3.4\times10^{-3}\right)$$

44: Divide (leave answer in scientific notation)

$$\left(1.5\times10^{8}\right)\div\left(5\times10^{-3}\right)$$

45:Factor : $x\left(x-2\right)+7\left(x-2\right)$

46: Factor completely**:** $\mathbf{5x^5 + 10\ x^3}$

47:Factor completely: $\mathbf{x^2 + x - 42}$

48 Factor completely $\mathbf{5x^2 - 30x + 45}$

49: Which ordered pair is a solution to this system of equations:

$$2x+3y=12$$

$$x-4y=-5$$

(a) (3,3) (b) (3,2)

(c) (–1,1) (d) (7,3)

50: Solve this system of equations by the substitution or elimination method. Show your work. Write your answer as an ordered pair.

$$x+y=7 \qquad\qquad y=x+3$$

51: Solve for x: $\dfrac{x}{5}-\dfrac{5}{x}=0$

52: Multiply $\left(M^2N+7\right)\left(M^2N-7\right)$

53: Multiply $\sqrt{14}\sqrt{14}$

54: Simplify $\dfrac{\sqrt{20}}{\sqrt{5}}$

55:Rationalize the denominator $\dfrac{\sqrt{7}}{\sqrt{3}}$

56. Factor this expression, if possible:

$4y-21+y^2$

57: Multiply $\left(\sqrt{2}+\sqrt{7}\right)\left(\sqrt{2}-\sqrt{7}\right)$

58: Solve for x: $\sqrt{2x+3}=11$

59: Solve for x: $\sqrt{2x+7}=\sqrt{3x+3}$

60: Add $\dfrac{4}{xy^2}+\dfrac{2}{x^2y}$