1) M varies inversely as the square root of n. M is 4 when n is 25. Find M when n is 16.

2) Y varies jointly as the cube of x and the square of z. Y is 144 when x is 2 and z is 3. Find Y when x is 3 and z is 2.

3) Suppose that the demand (D) for candy at a movie theater is inversely related to the square root of the price (p). When the price of candy is $4.00 per bag, the theater sells 150 bags of the candy. Determine the number of bags of candy that will be sold if the price is raised to $9.00 per bag.

4) The distance (D) it takes a car to stop is directly proportional to the square of the speed (s) it is moving.   A car traveling 10 miles per hour can stop in 15 feet. How long will it take a car traveling 40 miles per hour to stop?
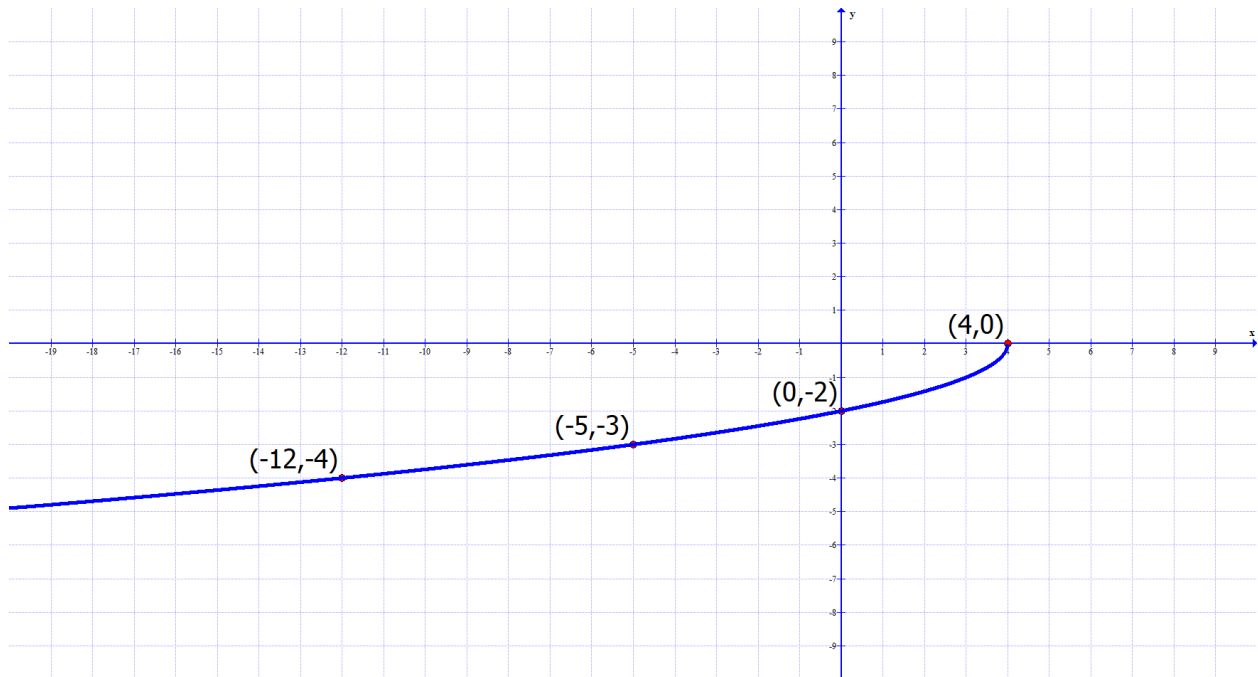
#5 – 6: Use Algebra to find the x and y-intercepts.
5) 2x - 8y = 32   6) y = x² + 4x – 12

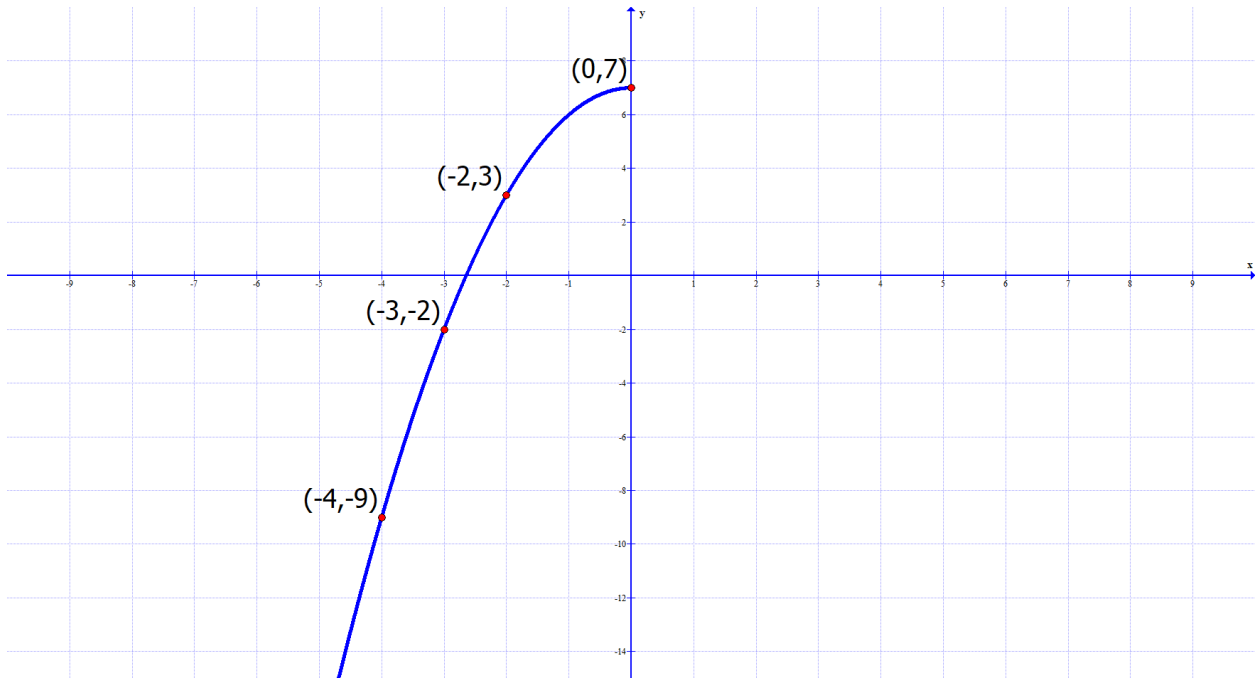5) $2x - 8y = 32$ 6) $y = x^2 + 4x - 12$

#7 – 9: draw a complete graph so that it has the indicated symmetry. Make sure to show each new point on your graph.
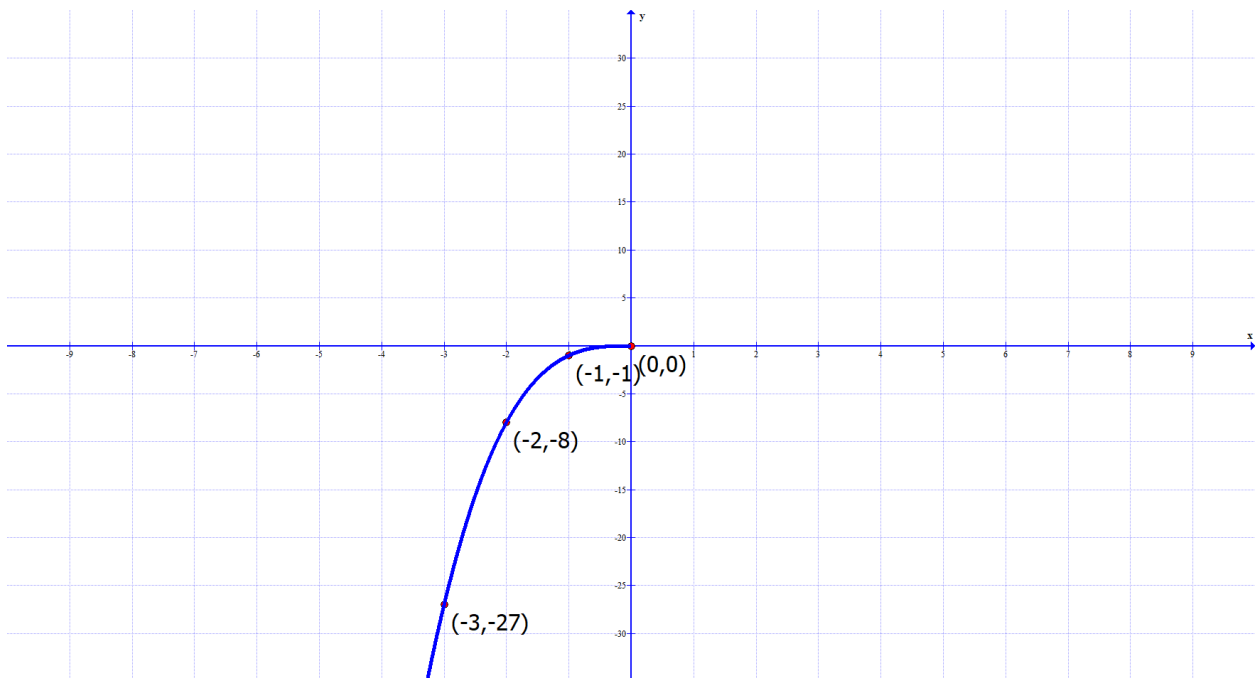
7) x-axis

8) y-axis

(0,7)

(-2,3)

(-3,-2)

(-4,-9)

9) origin

(-1,-1) (0,0)

(-2,-8)

(-3,-27)

10) Sketch the graph of a line passing through the given point with the indicated slope. Label the given point and one additional point on your graph.

$point\ (6, -2)\ slope\ =\ \frac{2}{3}$

11) Find the slope of the line that passes through the two points.

$first\ point\ (-3,5)\ second\ point\ (5,9)$

12) $y = \frac{-4}{3}x + 7$

a) Find the slope of the given line
b) Find the slope of all lines parallel to the given line
c) Find the slope of all lines perpendicular to the given line.

13) Use the method of your choice (point slope form or slope intercept form) to find the equation of a line with slope m, passing through the point (x, y). Write your answer in slope-intercept form.

$m = 6\ point\ (8, -4)$

14) Use the method of your choice (point slope form or slope intercept form) to find the equation of a line passing through the points$(7,3)\ and\ (5,13)$. Write your answer in slope-intercept form.

15) Find the equation of the vertical line passing through the point (2, - 6).

16) Find the equation of the horizontal line passing through the point (2 ,-6).

17) Write the standard form of the equation of the circle with the given radius (r) and center (h,k):   r = 3   (h,k) = (2, -1)

18) Find the standard form of the equation of each circle.

 Center (9, 1) contains the point (5, 4)

19) $x^2 + y^2 - 6x + 10y = 2$

a) Rewrite so that the equation is written in the standard form of a circle.
b) Identify the center of the circle
c) Identify the radius of the circle
d) Sketch a graph of the circle.