

- Adjust the window to view all key features (ZOOM 6 to return to 10 x 10 window)
- Solve or identify all key features listed for each problem
- Sketch a graph

1. Solve for x.  $(x - 4)(x + 5)(x - 2) = 88$

$y_{\max} 100$   $x = 6$

2. Solve for x.  $-x^3 + 1.5x - 3 = 55$

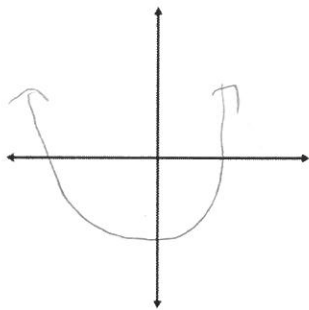
$y_{\max} 60$   $x = -4$

3.  $y = x^2 + 2x - 24$

a. x-intercept(s):  $(-6, 0)$   $(4, 0)$

b. vertex:  $(-1, -25)$

c. y-intercept:  $(0, -24)$

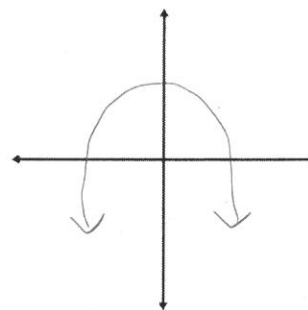


4.  $y = -2x^2 - x + 15$

a. x-intercept(s):  $(-3, 0)$   $(2.5, 0)$

b. vertex:  $(-.25, 15.125)$

c. Find the value of y when  $x = -2.5$ : 5



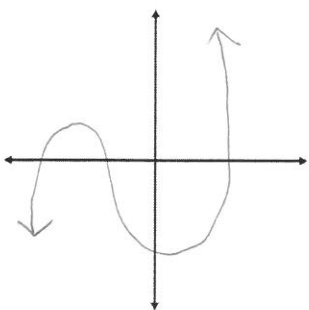
5.  $y = x^3 + 2x^2 - 5x - 4$

a. x-intercept(s):  $(-3.2, 0)$   $(-1.68, 0)$   $(1.9, 0)$

b. maximum(s): 6.1 or  $(-2.1, 6.1)$

c. minimum(s): -6.2 or  $(.79, -6.2)$

d. y-intercept:  $(0, -4)$



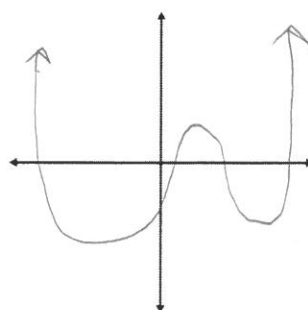
6.  $y = x^4 - 6x^3 + 7x^2 + 6x - 8$

a. x-intercept(s):  $(-1, 0)$   $(1, 0)$   $(2, 0)$   $(4, 0)$

b. maximum(s): 1.57 or  $(1.5, 1.5625)$

c. minimum(s): -9 or  $(-3, -9)$   $(3.3, -9)$

d. y-intercept:  $(0, -8)$

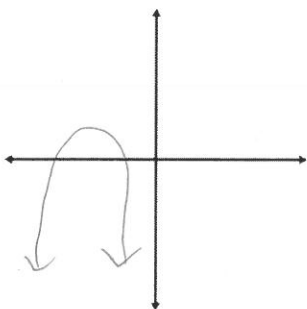


7.  $y = -3(x + 5)^2 + 17$

a. x-intercept(s):  $(-7.4, 0)$   $(-2.6, 0)$

b. vertex:  $(-5, 17)$

c. Find the value of y when  $x = -12$ :  $-130$



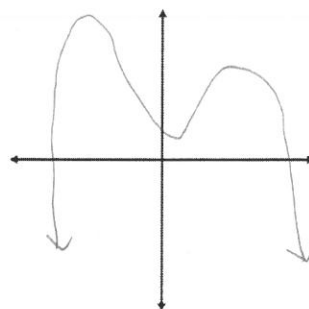
8.  $y = -x^4 + 4x^3 - 10x + 8$

a. x-intercept(s):  $(-1.63, 0)$   $(3.31, 0)$

b. maximum(s):  $(-0.81, 13.54)$   $(2.64, 6.62)$

c. minimum(s):  $(1.17, -8.3)$

d. y-intercept:  $(0, 8)$

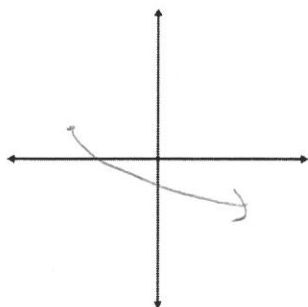


9.  $y = -\sqrt{x+8} + 3$

a. x-intercept(s):  $(1, 0)$

b. y-intercept:  $(-8, 3)$

c. starting point:  $(0, .17)$



10.  $y = -x^3 + 6x - 3$

a. x-intercept(s):  $(-2.67, 0)$   $(.52, 0)$   $(2.15, 0)$

b. maximum(s):  $(1.41, 2.66)$

c. minimum(s):  $(-1.41, -8.66)$

d. y-intercept:  $(0, -3)$

