

- 1 Graph $f(x) = 2(x-1)(x+3)$
 Label the x-intercepts
 Label the Vertex
 Label the Axis of Symmetry.

The x-intercepts are at $x = 1$ and $x = -3$.

If we want the x-coordinate of the Vertex, we can average the x-intercepts: $\frac{1+(-3)}{2} = \frac{-2}{2} = -1$

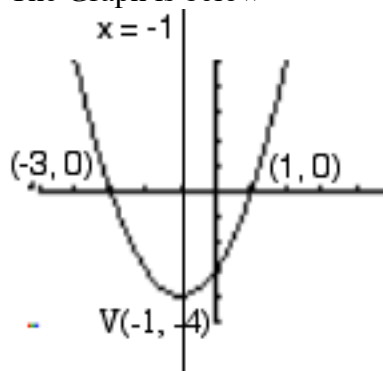
To find the y-coordinate of the Vertex, we can plug -1 into each occurrence of x

$$f(-1) = 2(-1-1)(-2+3) = 2(-2)(1) = -4$$

So the Vertex is at $(-1, -4)$

The Axis of Symmetry is $x = -1$

The Graph is below



Assignment 113

Page 61 #'s 54-60

- Draw the Graph on Graph Paper (You can download from my web site)
- Label the x-intercepts
- Label the Vertex
- Draw and Label the Axis of Symmetry

54. $y = (x+1)(x-3)$

55. $y = 3(x+2)(x+6)$

56. $f(x) = 2(x-5)(x-1)$

57. $g(x) = -x(x+6)$

58. $y = -4x(x+7)$

59. $f(x) = -2(x-3)^2$

60. $y = 4(x-7)^2$