

This is the Friday activity, but you can turn it in on Monday at the beginning of class.

Given the parabola $f(x) = x^2 - 2x - 24$

- Find the y-intercept
- Find the x-intercepts (i.e. zeroes)
- Find the vertex.
- Does this parabola open up or down?
- What is the axis of symmetry?
- Does this parabola have a maximum or a minimum function value?
- State the maximum or minimum
- Graph – be sure to LABEL the axes, plot the intercepts and the vertex.

y-int $x=0$ $f(0) = -24$ Point $(0, -24)$

x-int $0 = x^2 - 2x - 24$

$= (x-6)(x+4)$

$x-6=0$
 $\frac{+6}{+6}$
 $x=6$

$x+4=0$
 $x=-4$

Point
 $(6, 0)$
 $(-4, 0)$

Vertex

$x = \frac{-b}{2a} = \frac{2}{2(1)} = 1$

Point
 $(1, -25)$

$y = 1^2 - 2(1) - 24 = -25$

Axis of Symmetry $x=1$

Opens Up

U minimum at -25
 (y value of vertex)

