ALGEBRA RH for ZOOM

1)
a) Graph $y = x^2 - 2x - 3$.

b) Determine the coordinates of the vertex._____

c) State whether the vertex is a *maximum* or a *minimum* point._____

d) State the **roots** of the parabola._____

e) State the **y-intercept**. _____

f) State the **domain** of the function. _____

g) State the **range** of the function. _____

h) State the *interval* for which the function is **increasing**. _____

i) State the *interval* for which the function is **decreasing**. _____

j) Describe the **end behavior** of the function. _____

x	y
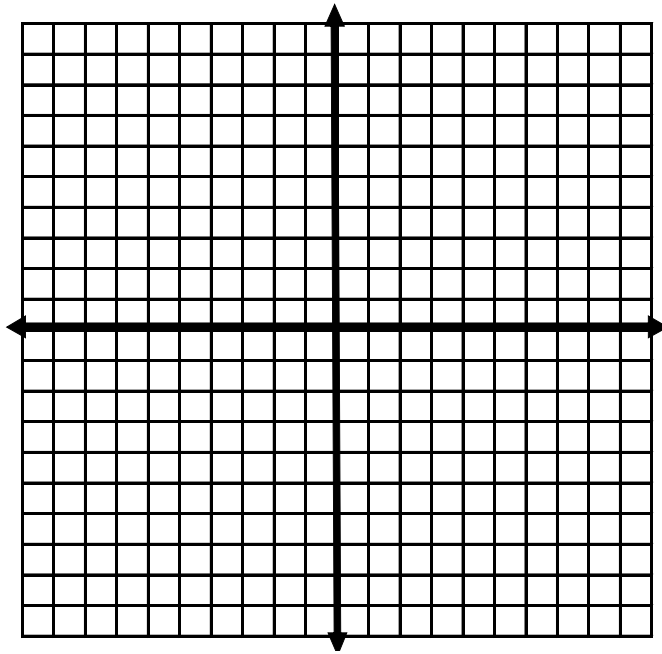
2) Examine the function pictured below and complete a – d.

a) State the *interval* for which the function is **increasing**. _____

b) State the *interval* for which the function is **decreasing**. _____

c) State the **range** of the function. _____

d) State the y-intercept. _____

$y = -x^2 - 2x + 3$
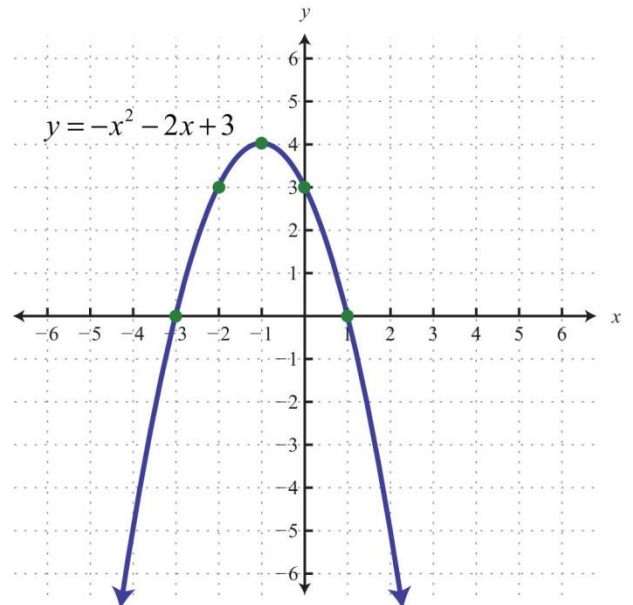
Quadratic Functions can be written in different forms.

Standard Form

$y = ax^2 + bx + c$

c: y-intercept

Factored Form

$y = a(x - r_1)(x - r_2)$

Roots: $\{ r_1, r_2 \}$

Vertex Form

$y = a(x - h)^2 + k$

Vertex: (h, k)

Rewrite the quadratic functions in _factored form_ and in _vertex form_.
State the _zeros_ and the _vertex_ of the function.

$y = x^2 - 2x - 3$	$y = x^2 - 18x - 40$
Factored Form Zeros:_____	**Factored Form** Zeros:_____
Vertex Form Vertex: _____	**Vertex Form** Vertex: _____

Write an equation of each quadratic shown graphed below