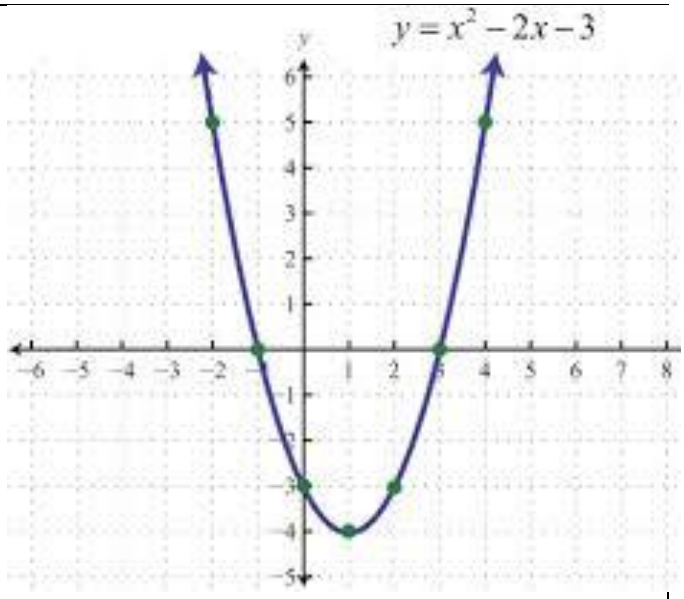
Name_____ Date_____

Unit 9 **Lesson 1**

DO NOW

1. Given the parabola to the right answer the following.



a) Is the parabola concave up ("smiling") or concave down ("frowning")?

b) Identify the roots.

c) Identify the y-intercept.

d) Does the parabola have a maximum or minimum point?

e) Identify the vertex.

f) For which interval is quadratic function increasing?

g) For which interval is quadratic function decreasing?

AIM: GRAPHING QUADRATIC EQUATIONS

- The standard form of a quadratic equation (graph) is _____.
- The graph of a quadratic equation is called a _____.
- When the a-value is positive, the parabola opens _____ and has a _____ TP.
- When the a-value is negative, the parabola opens _____and has a _____TP.
- The ____- value is the y-intercept.
- When an interval is given, there are _____ arrows.
- There are 3 ways to find the roots:

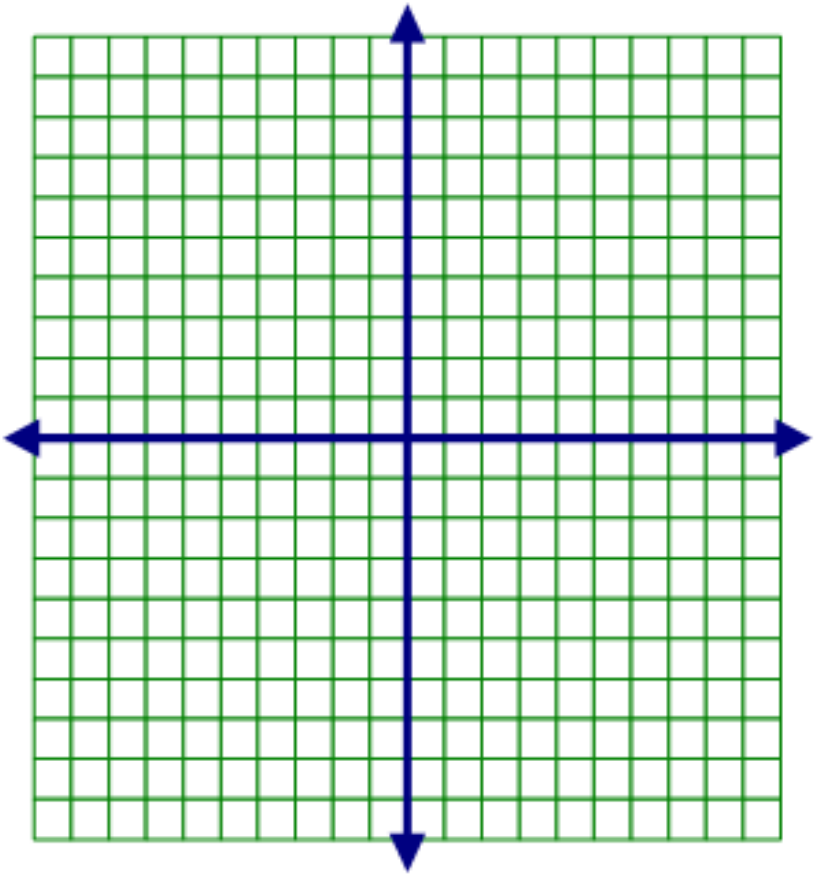
  1) _____

  2) _____

  3) _____

2. Graph $f(x) = x^2 - 4x - 5$

x	y



a) y-intercept_____

b) Turning Point_____

c) Maximum or Minimum T.P_____

d) x-intercepts_____

e) State the domain set builder notation_____

f) State the range in set builder notation_____

g) For which interval is quadratic function increasing? _____

h) For which interval is quadratic function decreasing? _____

GRAPHING CALCULATOR STEPS:

1) Press "y =" key and type in equation
2) Press "2nd graph (table)
3) Find turning point in the middle of table and copy at least 3 points above and 3 points below.
4) Plot the points, connect the curve, and label your graph.
5) Press "zoom" 6 or "graph" to check parabola

Partner Practice:

3. Given the parabola to the right answer the following.

a) Is the parabola concave up or concave down?

b) Identify the zeros of a function.

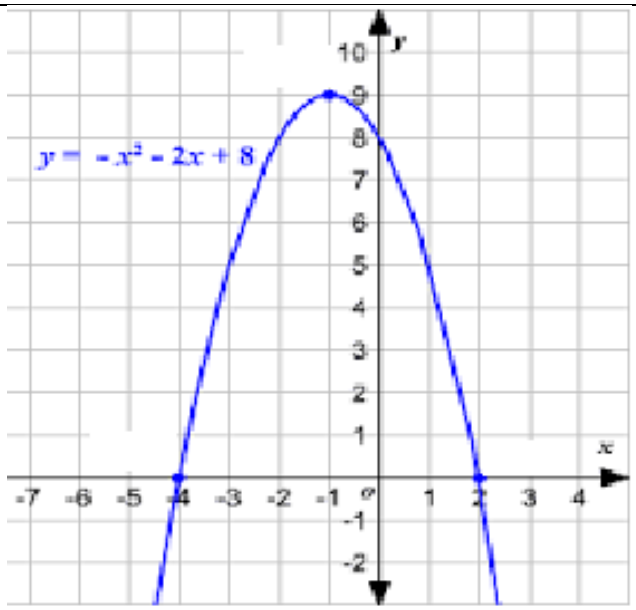
c) Identify the y-intercept.

d) Does the parabola have a maximum or minimum point?

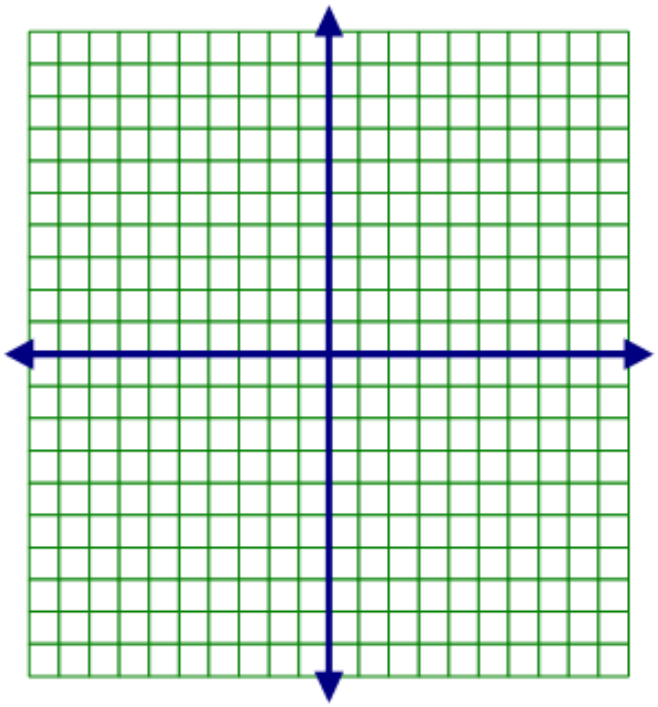
e) Identify the vertex.

f) For which interval is quadratic function increasing?

g) For which interval is quadratic function decreasing?



4. Graph $g(x) = -2x^2 - 4x\,;\ \{-3 \le x \le 1\}$



a) y-intercept_____

b) Vertex _____

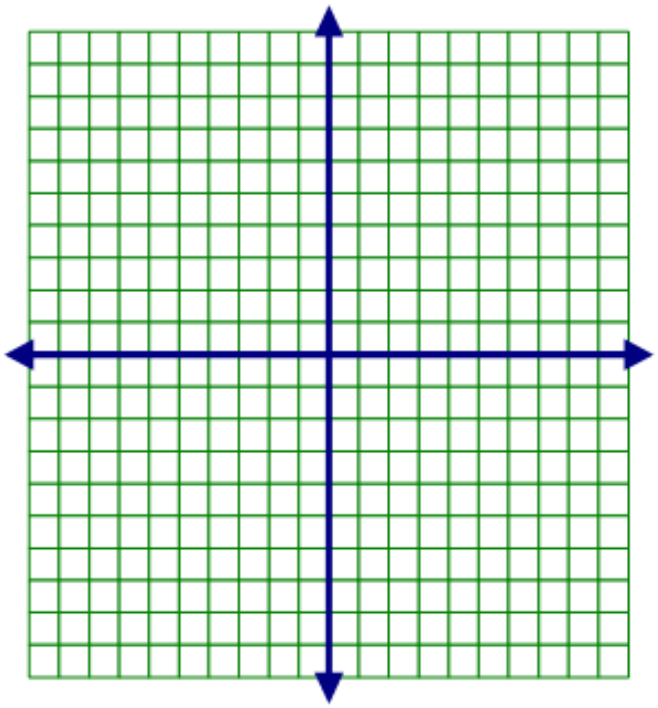
c) Maximum or Minimum T.P_____

d) Roots_____

\

5. Graph $h(x) = x^2 - 4x + 4;\ \{-1 \le x \le 5\}$

x	y



a) y-intercept_____

b) Vertex _____

c) Maximum or Minimum T.P_____

d) x-intercepts_____

Name_____ Date_____

Unit 9 **Lesson 1**

HW#____

1. Graph the function $g(x) = -x^2 + 10x - 25$

a) Identify the Vertex.

b) Describe the turning point as a Maximum or Minimum point.

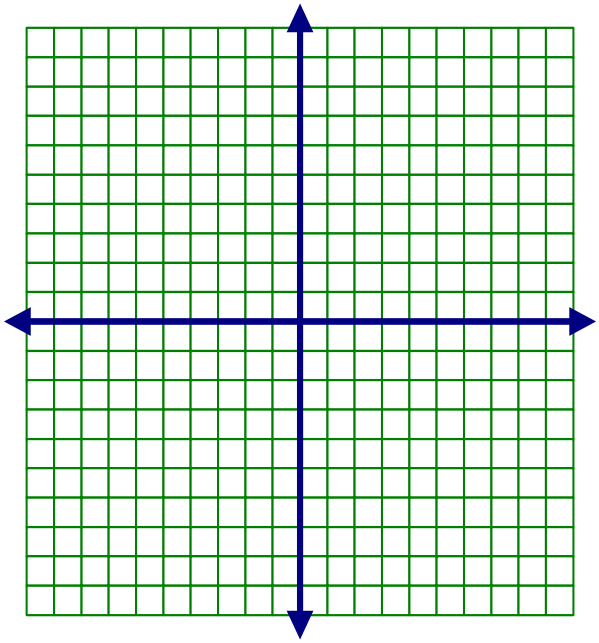
c) Identify the Roots.

d) Identify the y-intercept

x	y

e) For which interval is quadratic function increasing?

f) For which interval is quadratic function decreasing?



2. Graph the function $h(x) = x^2 + 2x + 1$

a) Identify the Vertex.

b) Describe the turning point as a Maximum or Minimum point.

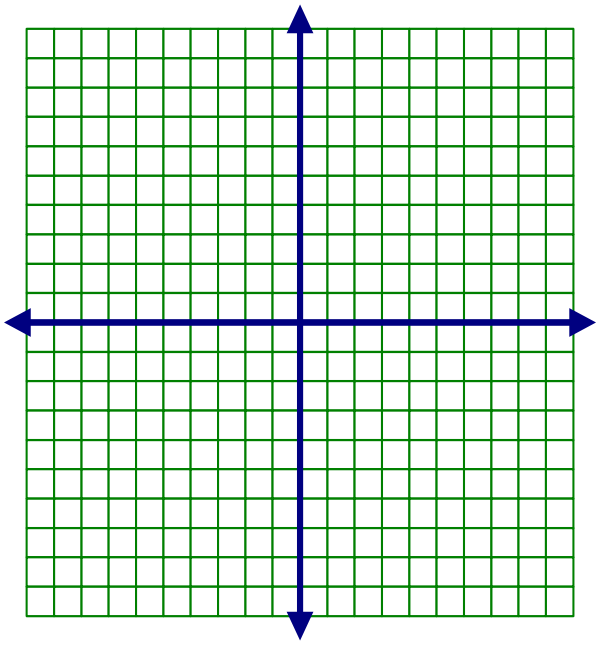
c) Identify the Roots.

d) Identify the y-intercept

x	y

e) For which interval is quadratic function increasing?

f) For which interval is quadratic function decreasing?



DON'T FORGET TEXTBOOK HW!!!