Worksheet 5:
Graphing Quadratic Equations

Name_____

For each Quadratic Equation below, answer the following questions.

A) Determine the orientation of the graph.
B) Find the vertex and determine whether the vertex is a maximum or minimum.
C) Create a table of values (put the vertex in the middle and take two points to the left of the vertex and two points to the right of the vertex).
D) Graph the function with its base function $y = x^2$. As well, draw the axis of symmetry for each function on the graph
E) State the equation of the axis of symmetry (AOS).
E) Complete the statement indicated.
F) Find the domain and range.

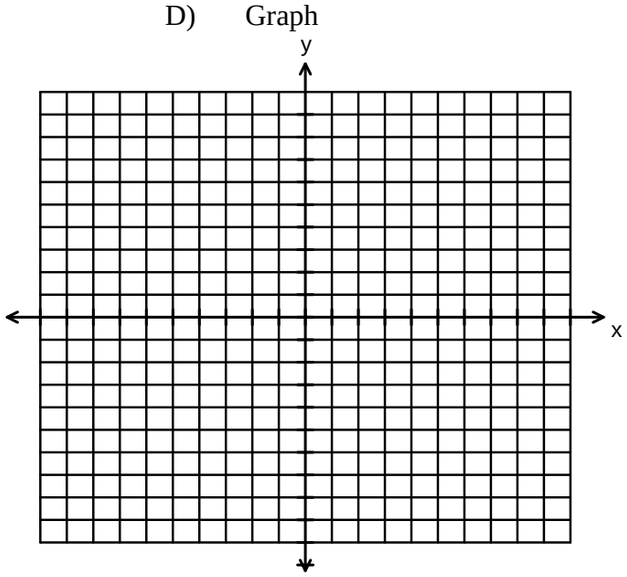
1) $\boldsymbol{y = 0.5x^2 - 4x - 6}$ A)
Orientation:_____

B) Vertex and Type

C) Table of Values

x	$y = x^2$	x	$\boldsymbol{y = 0.5x^2 - 4x - 6}$

D) Graph



E) Equation of AOS for each graph:

AOS for $y = x^2$:_____ AOS for $y = 0.5x^2 - 4x - 6$:_____

F) y has a _____value of y = _____ and it occurs at x = _____

G) Domain Range

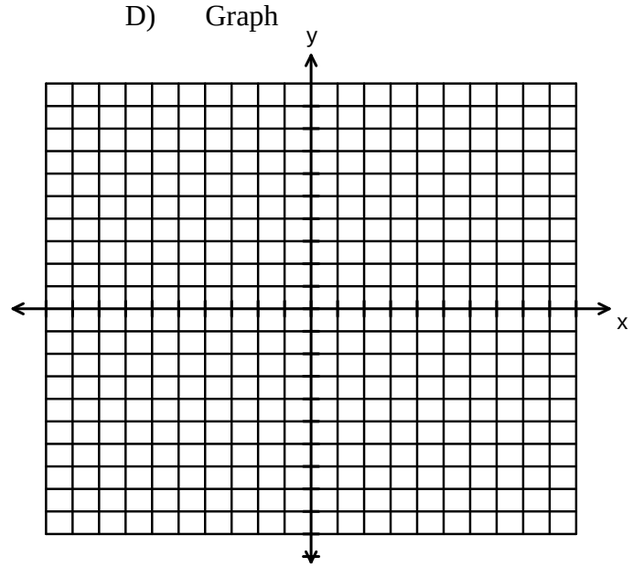
2) $\boldsymbol{y = -0.25x^2 - 2x + 5}$ A) Orientation:_____

B) Vertex and Type

C) Table of Values

x	$y = x^2$	x	$\boldsymbol{y = -0.25x^2 - 2x + 5}$

D) Graph



E) Equation of AOS for each graph:

AOS for $y = x^2$:_____ AOS for $y = -0.25x^2 - 2x + 5$:_____

F) y has a _____value of y = _____ and it occurs at x = _____

G) Domain Range

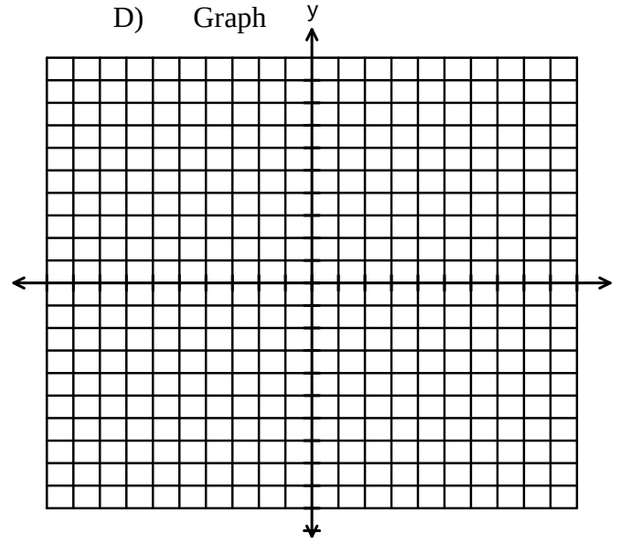
3) $\boldsymbol{y = x^2 - 8x + 7}$ A) Orientation:_____

B) Vertex and Type

C) Table of Values

x	$y = x^2$	x	$y = x^2 - 8x + 7$

D) Graph



E) Equation of AOS for each graph:

AOS for $y = x^2$:_____ AOS for $y = x^2 - 8x + 7$:_____

F) y has a _____value of y = _____ and it occurs at x = _____

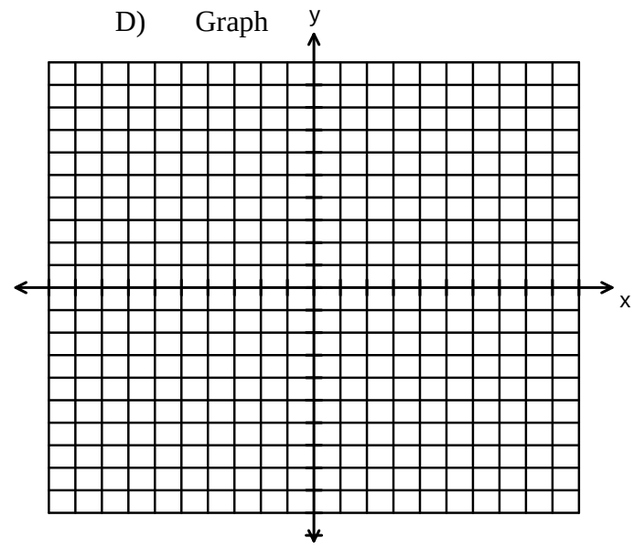
G) Domain Range

4) $y = 2x^2 - 8x + 2$ A) Orientation:_____

B) Vertex and Type

C) Table of Values D) Graph

x	$y = x^2$	x	$y = 2x^2 - 8x + 2$



E) Equation of AOS for each graph:

AOS for $y = x^2$:_____ AOS for $y = -x^2 - 6x + 13$:_____

F) y has a _____value of y = _____ and it occurs at x = _____

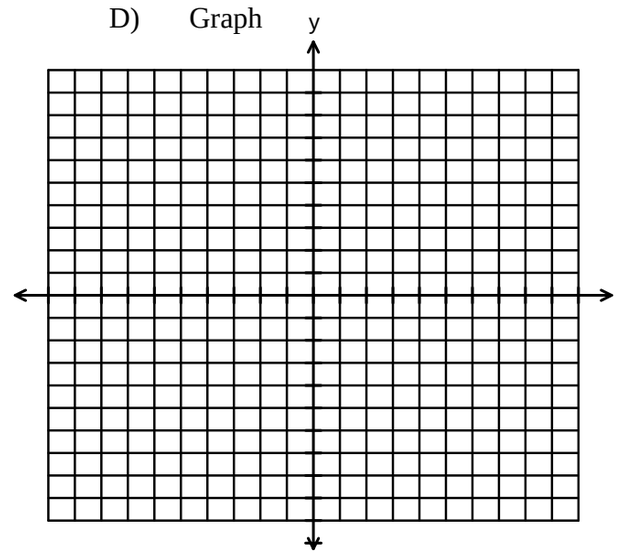
G) Domain Range

5) $y = -4x^2 - 10x$ A) Orientation:_____

B) Vertex and Type

C) Table of Values D) Graph

x	$y = x^2$	x	$y = -4x^2 - 10x$



E) Equation of AOS for each graph:

AOS for $y = x^2$:_____ AOS for $y = -4x^2 - 10x$:_____

F) y has a _____value of y = _____ and it occurs at x = _____

G) Domain Range

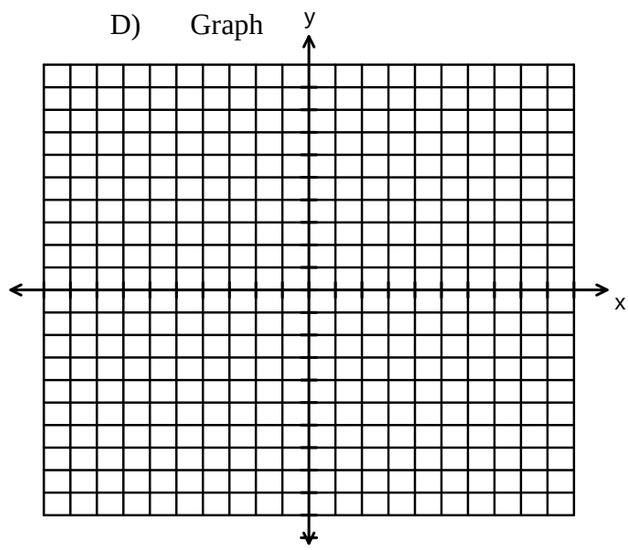
6) $\boldsymbol{y = -2x^2 + 8x - 5}$ A) Orientation:_____

B) Vertex and Type

C) Table of Values

x	$y = x^2$	x	$y = -2x^2 + 8x - 5$

D) Graph



E) Equation of AOS for each graph:

AOS for $y = x^2$:_____ AOS for $y = -5x^2 + 10x - 3$:_____

F) y has a _____value of y = _____ and it occurs at x = _____

G) Domain Range