*Algebra 1*: Unit 7, Homework Handout 7.2: Graphing Quadratic Functions: Standard Form Name:

Find all the parts and graph the quadratic function in standard form.

1. $f(x) = x^2 + 6x + 8$

| x | y |
|---|---|
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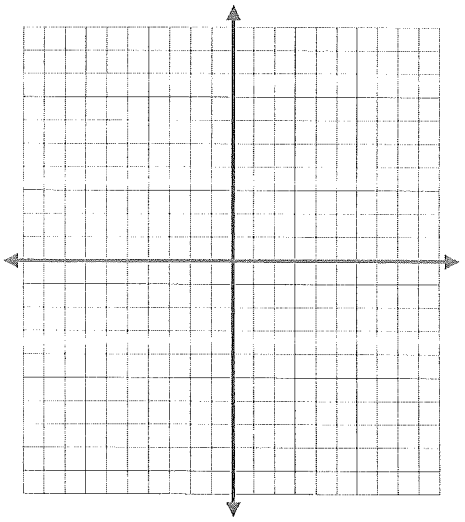

***Parts of a Quadratic Function:***

Direction of opening: y-intercept: x-intercept(s):

Vertex:

Maximum/Minimum:

Axis of Symmetry: Domain: Range:

2. $f(x) = -2x^2 + 8x - 3$

| x | y |
|---|---|
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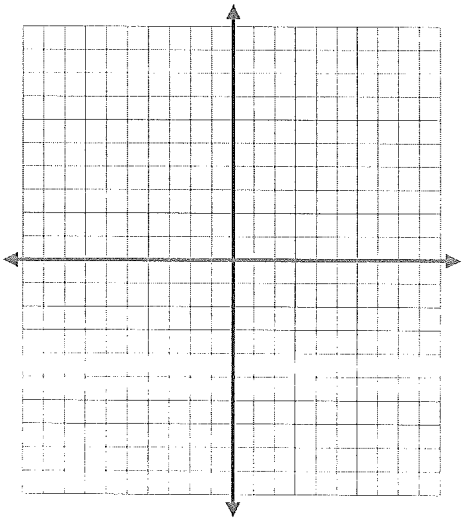

***Parts of a Quadratic Function:***

Direction of opening: y-intercept: x-intercept(s):

Vertex:

Maximum/Minimum:

Axis of Symmetry: Domain: Range:

3. $f(x) = -2x^2 + 8x - 3$

| x | y |
|---|---|
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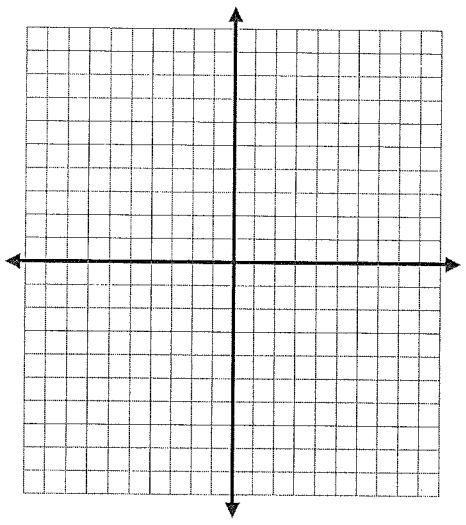


***Parts of a Quadratic Function:***

Direction of opening: y-intercept: x-intercept(s):

Vertex:

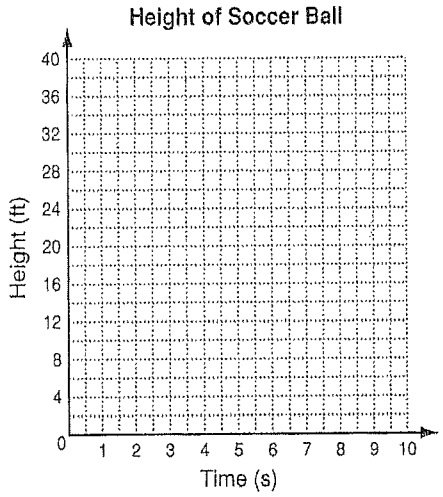
Maximum/Minimum:

Axis of Symmetry: Domain: Range:

Exploring the equation of a quadratic function in standard form.

4. Sammy kicks a soccer ball during a game. The height of the ball, in feet, can be modeled by the function $f(x) = -16x^2 + 48x$, where x is the time after she kicks the ball.

a) Graph the function.




| x | y |
|---|---|
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| | |

Direction of opening:

Vertex:

y-intercept: x-intercept(s):

b) Find the maximum height of the ball.

c) How long does it take the ball to reach the maximum height?

d) How long is the ball in the air?