

## Properties of Quadratic Function

Find the properties of each quadratic function.

1)  $f(x) = 4x^2 - 8x + 3$

Domain : \_\_\_\_\_

Range : \_\_\_\_\_

x-intercepts : \_\_\_\_\_

y-intercept : \_\_\_\_\_

Vertex : \_\_\_\_\_

Minimum value : \_\_\_\_\_

Axis of symmetry : \_\_\_\_\_

Open up or down : \_\_\_\_\_

2)  $f(x) = -x^2 - 6x + 7$

Domain : \_\_\_\_\_

Range : \_\_\_\_\_

x-intercepts : \_\_\_\_\_

y-intercept : \_\_\_\_\_

Vertex : \_\_\_\_\_

Maximum value : \_\_\_\_\_

Axis of symmetry : \_\_\_\_\_

Open up or down : \_\_\_\_\_

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

Domain : \_\_\_\_\_

Range : \_\_\_\_\_

x-intercepts : \_\_\_\_\_

y-intercept : \_\_\_\_\_

Vertex : \_\_\_\_\_

Maximum value : \_\_\_\_\_

Axis of symmetry : \_\_\_\_\_

Open up or down : \_\_\_\_\_

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y-intercept : \_\_\_\_\_

Vertex : \_\_\_\_\_

Minimum value : \_\_\_\_\_

Axis of symmetry : \_\_\_\_\_

Open up or down : \_\_\_\_\_

**Properties of Quadratic Function**

Sheet 1

Find the properties of each quadratic function.

1)  $f(x) = 4x^2 - 8x + 3$

Domain : Real NumbersRange : {y is real :  $y \geq -1$ }x-intercepts :  $(\frac{3}{2}, 0)$  and  $(\frac{1}{2}, 0)$ y-intercept : (0, 3)Vertex : (1, 0)Minimum value : 0Axis of symmetry :  $x = 1$ Open up or down : Up

2)  $f(x) = -x^2 - 6x + 7$

Domain : Real NumbersRange : {y is real :  $y \leq 16$ }x-intercepts :  $(-7, 0)$  and  $(1, 0)$ y-intercept : (0, 7)Vertex :  $(-3, 16)$ Maximum value :  $y = 16$ Axis of symmetry :  $x = -3$ Open up or down : Down

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

Domain : Real NumbersRange : {y is real :  $y \geq -6$ }x-intercepts :  $(0, 0)$  and  $(2, 0)$ y-intercept : (0, 8)Vertex :  $(\frac{1}{3}, \frac{25}{3})$ Maximum value :  $y = \frac{25}{3}$ Axis of symmetry :  $x = \frac{1}{3}$ Open up or down : Down

$2x$

Domain : Real NumbersRange : {y is real :  $y \geq -6$ }x-intercepts :  $(0, 0)$  and  $(2, 0)$ y-intercept : (0, 0)Vertex :  $(1, -6)$ Minimum value :  $y = -6$ Axis of symmetry :  $x = 1$ Open up or down : Up

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