

### 3A-SC Quadratic Functions in Vertex Form

Provide the following information about the given functions, then graph:

1.  $f(x) = 2(x - 1)^2 - 6$  # x-int:

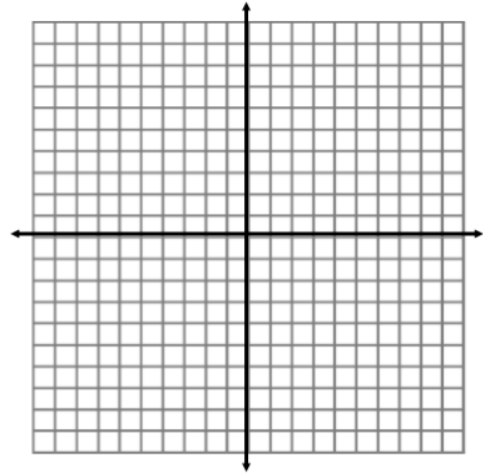
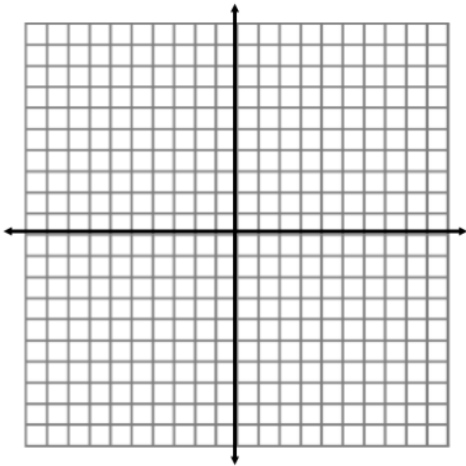
3.  $f(x) = \frac{3}{4}x^2 + 2$  # x-int:

Vertex:

y-int:

Vertex:

y-int:



$f(-5) =$

$f(5) =$

$f(-8) =$

$f(8) =$

2.  $f(x) = \frac{1}{2}(x + 4)^2$  # x-int:

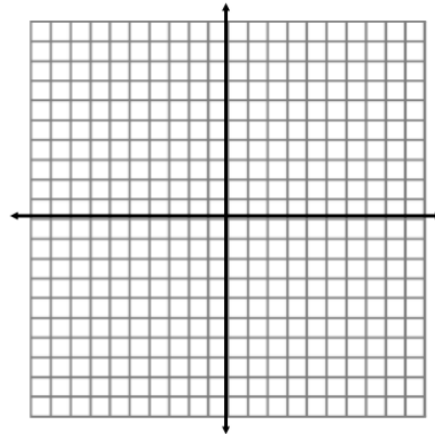
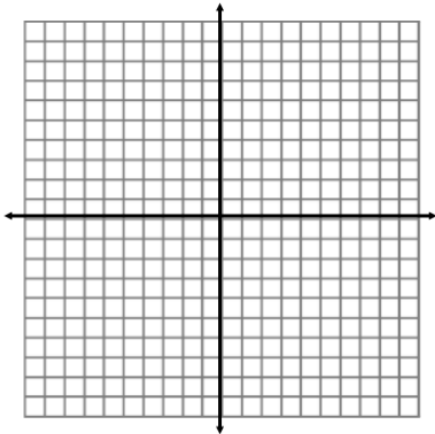
4.  $f(x) = 2x^2$  # x-int:

Vertex:

y-int:

Vertex:

y-int:



$f(-5) =$

$f(5) =$

$f(-3/4) =$

$f(3/4) =$

5. For each of the following quadratics: Solve using square roots. If the solution(s) is/are irrational, simplify.

a.  $x^2 - 9 = 0$

d.  $-\frac{1}{2}(x - 1)^2 + 4 = 2$

b.  $4x^2 = 108$

e.  $3(x + 2)^2 = 12$

c.  $3(x - 3)^2 - 42 = 0$

f.  $\frac{1}{2}(3x + 5)^2 = 24$