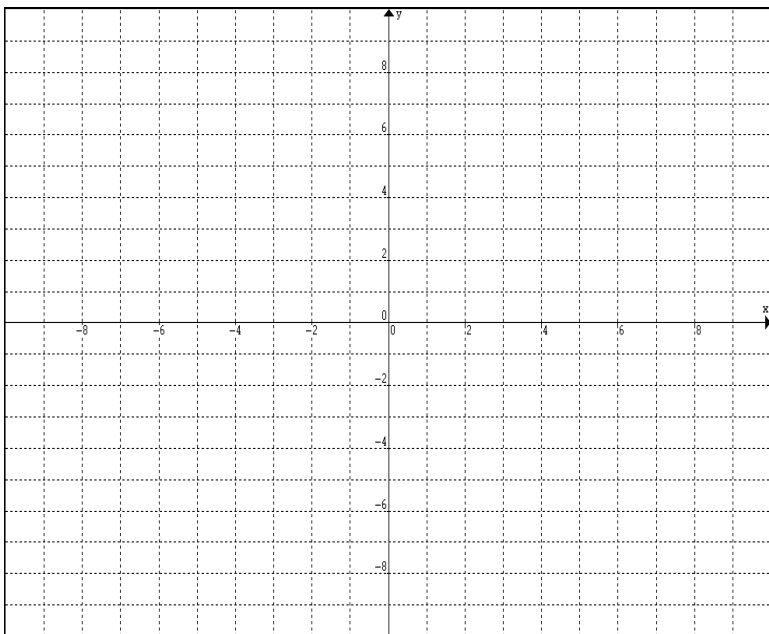


# Graphing Quadratic Functions

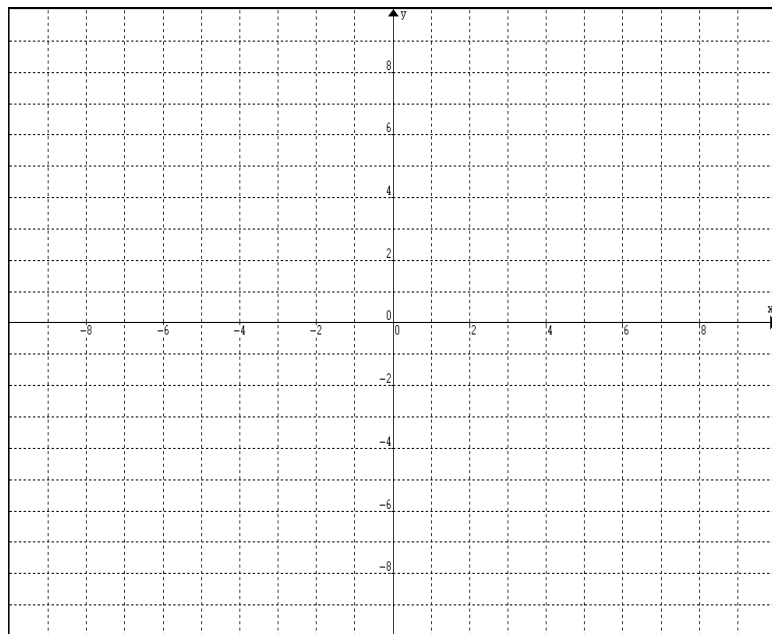
1.  $f(x) = x^2 + 5$

This is the graph of  $f(x) = \underline{\hspace{2cm}}$   
shifted up/down  $\underline{\hspace{1cm}}$  units



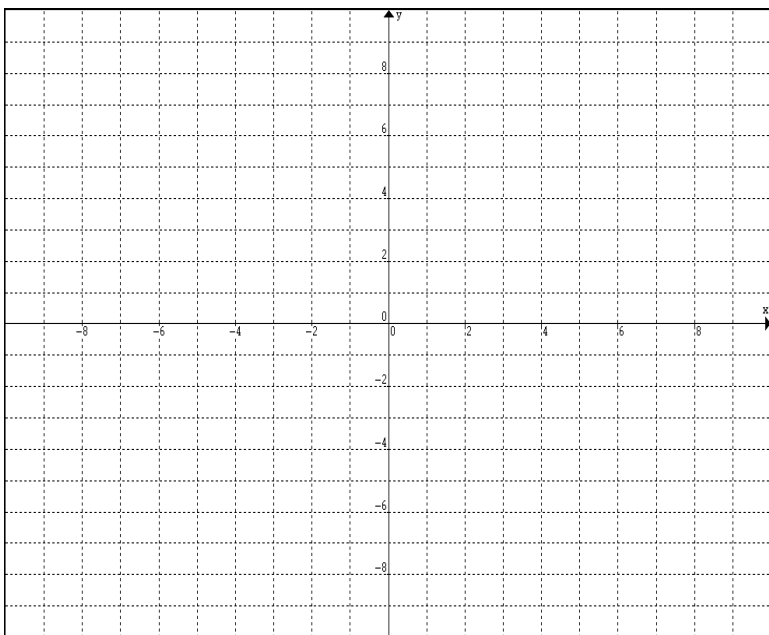
2.  $f(x) = (x + 3)^2$

This is the graph of  $f(x) = \underline{\hspace{2cm}}$   
shifted to the right/left  $\underline{\hspace{1cm}}$  units



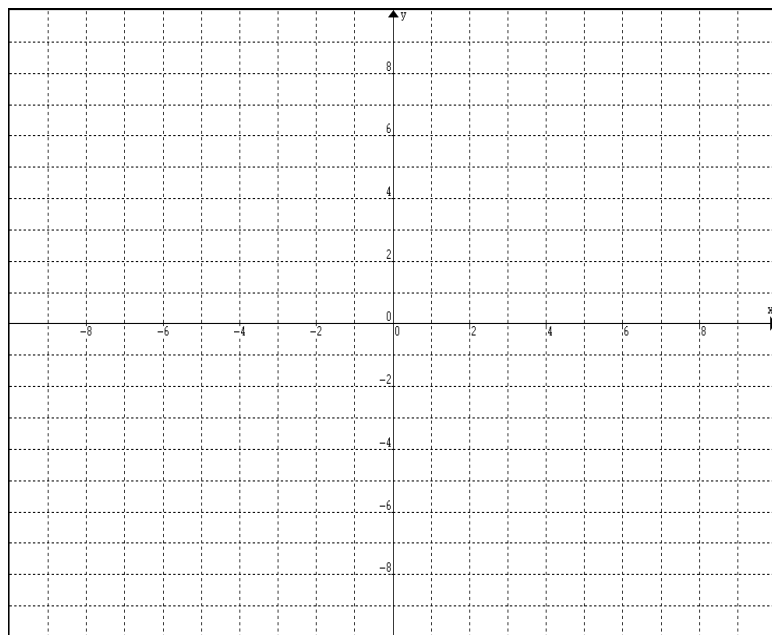
3.  $f(x) = (x - 4)^2 - 3$

This is the graph of  $f(x) = \underline{\hspace{2cm}}$   
shifted to the right/left  $\underline{\hspace{1cm}}$  units and  
up/down  $\underline{\hspace{1cm}}$  units



4.  $f(x) = -(x + 2)^2$

This is the graph of  $f(x) = \underline{\hspace{2cm}}$   
shifted to the right/left  $\underline{\hspace{1cm}}$  units

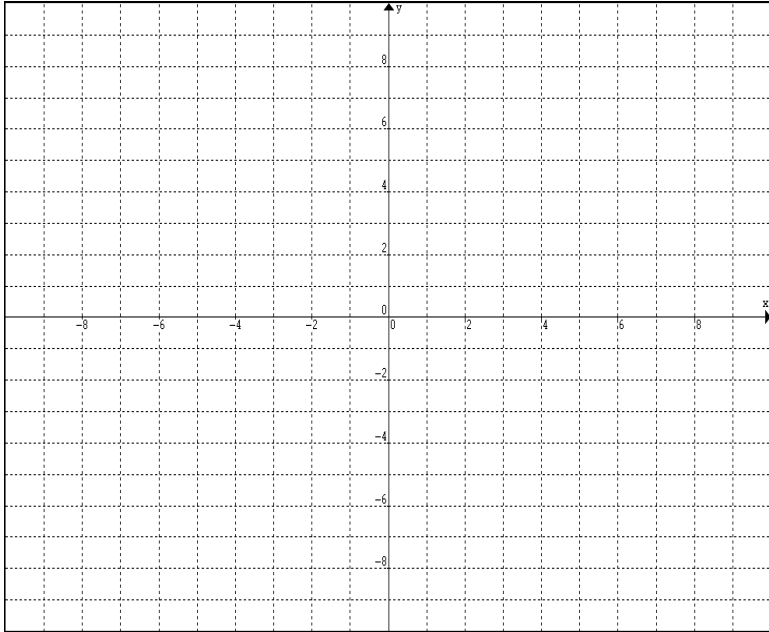


5.  $f(x) = \frac{1}{2}(x - 4)^2 - 3$

vertex:

axis of symmetry:

y-int:

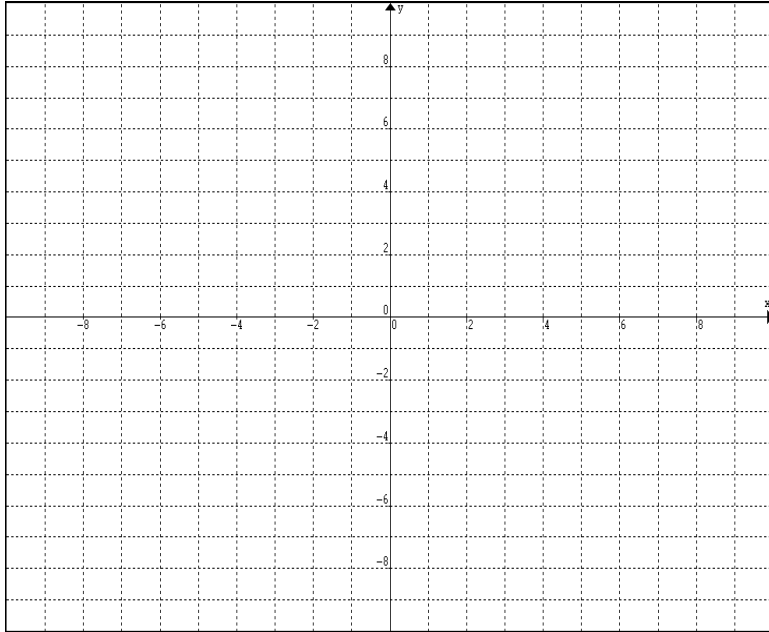


6.  $f(x) = 2(x + 3)^2 - 8$

vertex:

axis of symmetry:

y-int:

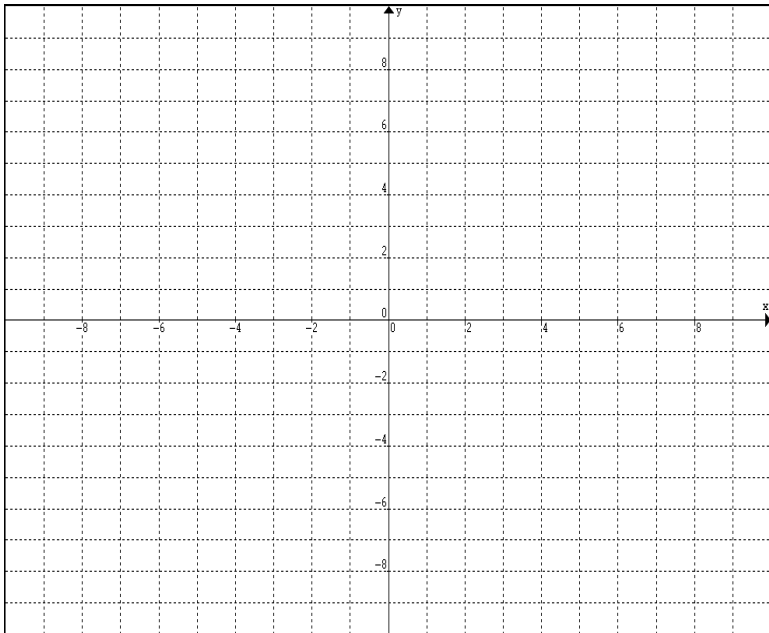


7.  $f(x) = -2(x + 2)^2 + 3$

vertex:

axis of symmetry:

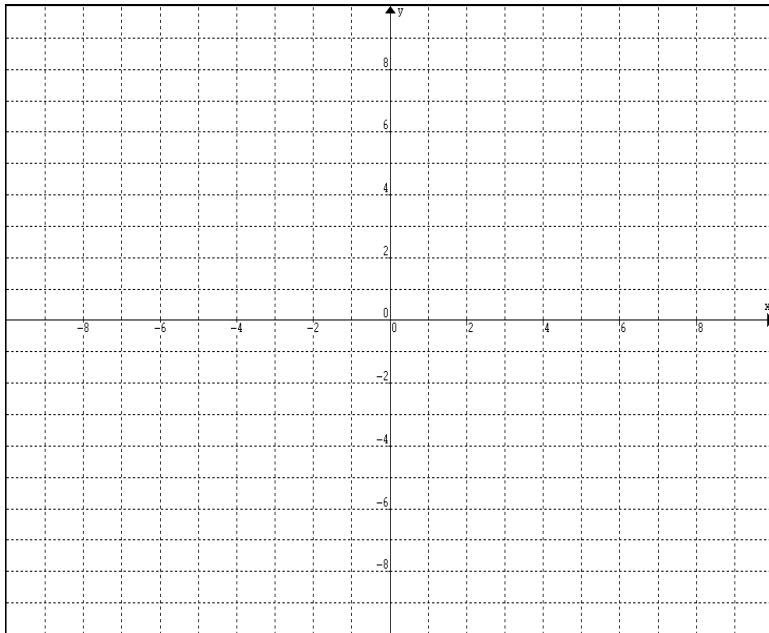
y-int:



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

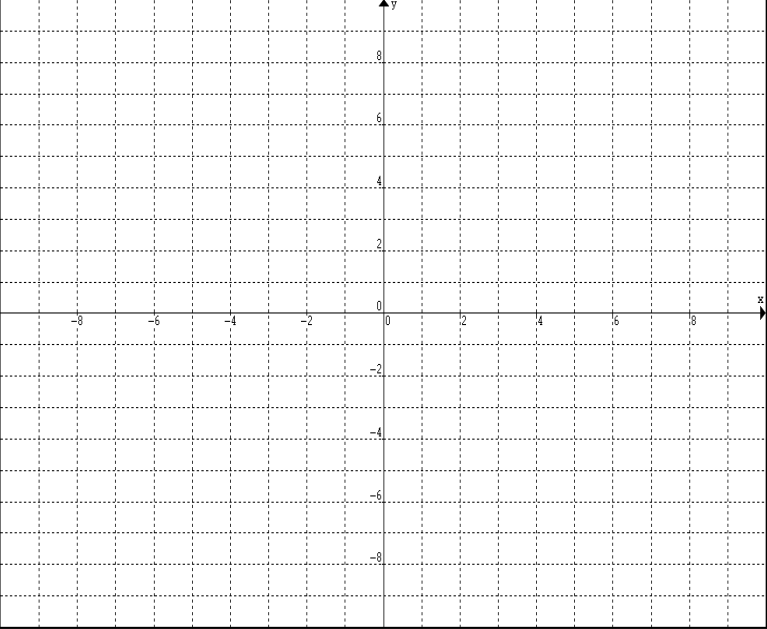
axis of symmetry:

vertex:



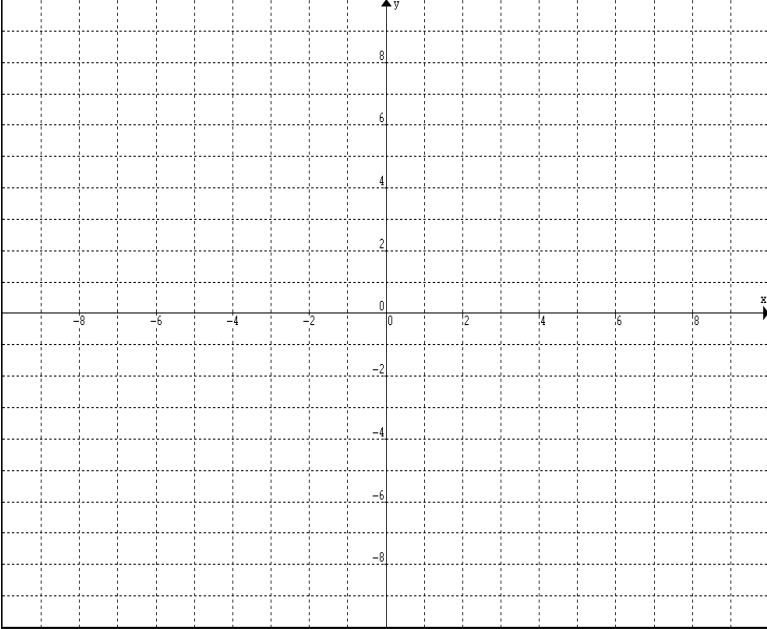
9.  $f(x) = -x^2 + 6x - 2$   
axis of symmetry:

vertex:



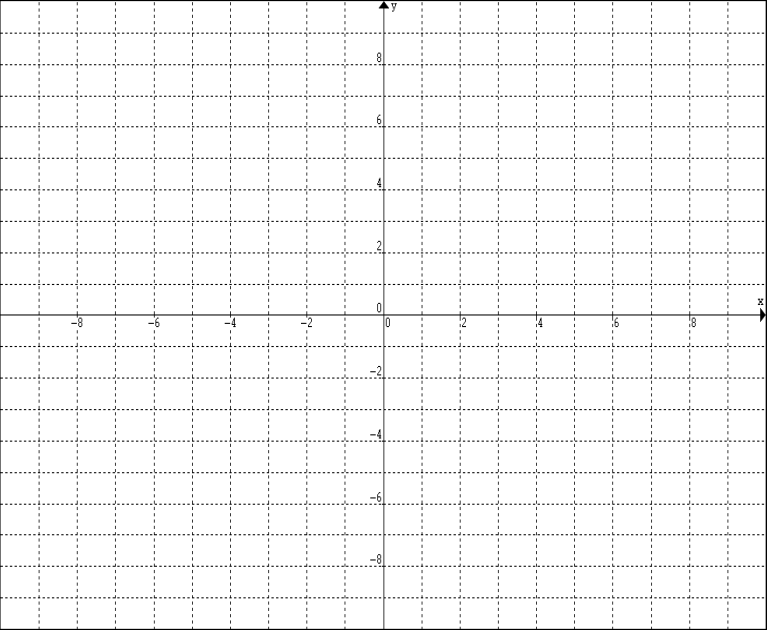
10.  $f(x) = 3x^2 + 12x + 4$   
axis of symmetry:

vertex:



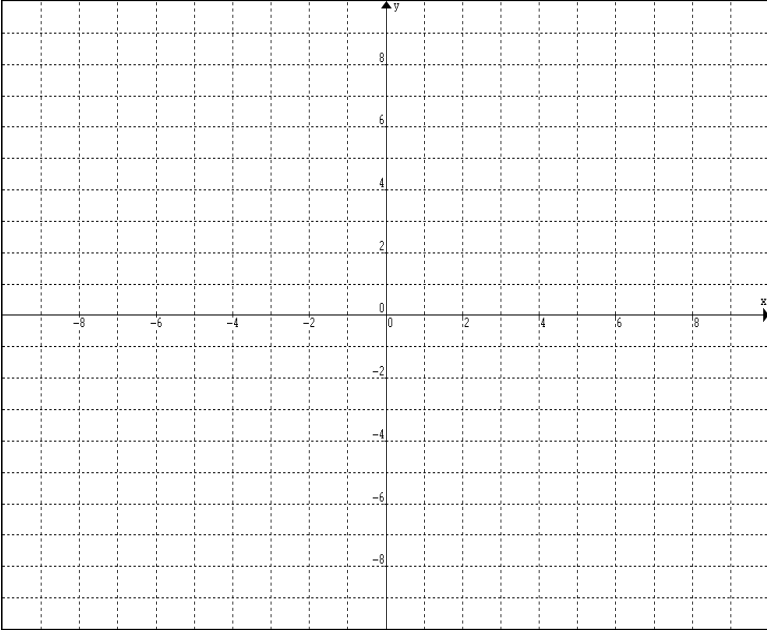
11.  $f(x) = -4x^2 - 8x + 3$   
axis of symmetry:

vertex:



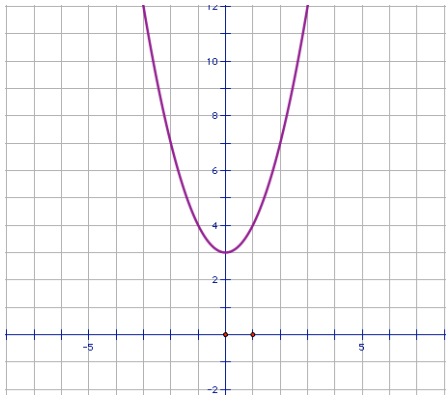
12.  $f(x) = -\frac{1}{2}x^2 + 3$   
axis of symmetry:

vertex:



Write an equation of each graph below in the form  $f(x) = a(x - h)^2 + k$

13.

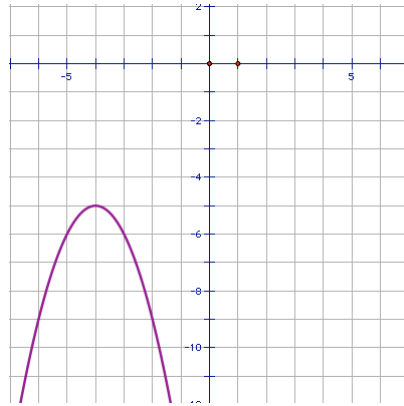


$a =$

vertex:

$f(x) =$

14.

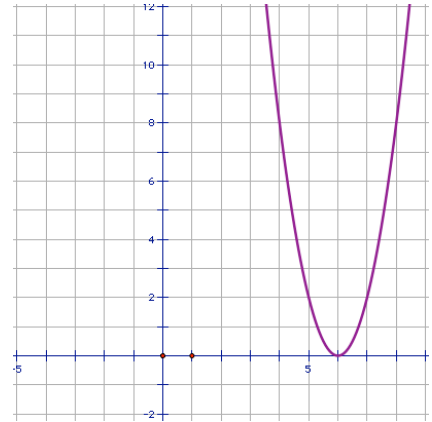


$a =$

vertex:

$f(x) =$

15.

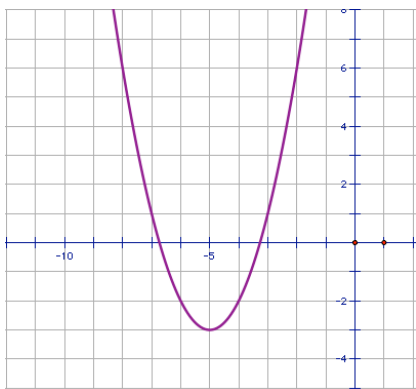


$a =$

vertex:

$f(x) =$

16.

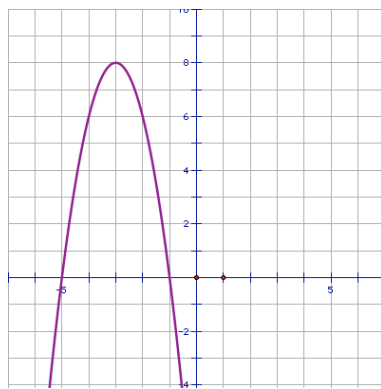


$a =$

vertex:

$f(x) =$

17.

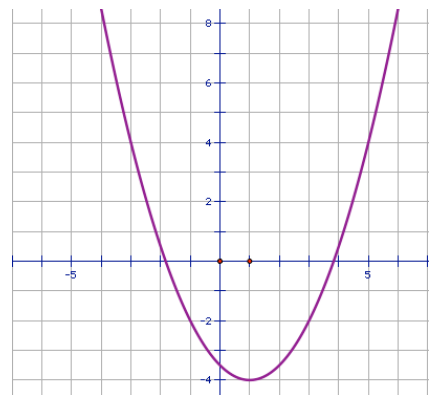


$a =$

vertex:

$f(x) =$

18.



$a =$

vertex:

$f(x) =$