The Vertex Form of a Quadratic

$$f(x) = a(x-h)^2 + k$$

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Describe the transformations of:

$$y = 3(x + 4)^2 - 6$$

Describe the transformations of:

$$y = -2(x - 1)^2 + 3$$

Describe the transformations of:

$$y = (x + 4)^2$$

Describe the transformations of:

$$y = -(x + 10)^2 + 9$$

Describe the transformations of:

$$y = 11x^2 - 7$$

Write an equation with the following transformations:

- Translation right 6
- Reflected over the x-axis

Write an equation with the following transformations:

- Dilation shrink of 1/3
- Translation down 4
- Translation right 12

Write an equation with the following transformations:

- Translation up 12
- Reflected over the x-axis
- Dilation stretch of 5

Using transformations determine the vertex of:

$$h(x) = -2(x + 3)^2 - 1$$

Using transformations determine the vertex of:

$$k(x) = (x - 1)^2$$

Using transformations determine the vertex of:

$$y = 4(x - 6)^2$$

Using transformations determine the vertex of:

$$g(x) = -(x + 7)^2 + 21$$

Find the y-intercept of the following function:

$$y = (x + 2)^2 - 1$$

Find the y-intercept of the following function:

$$y = 3(x - 4)^2 + 7$$

Find the y-intercept of the following function:

$$y = -2(x + 10)^2$$

Find the x-intercept of the following function:

$$y = 4(x + 8)^2 - 6$$

Find the x-intercept of the following function:

$$f(x) = -3(x - 2)^2 + 5$$

Find the x-intercept of the following function:

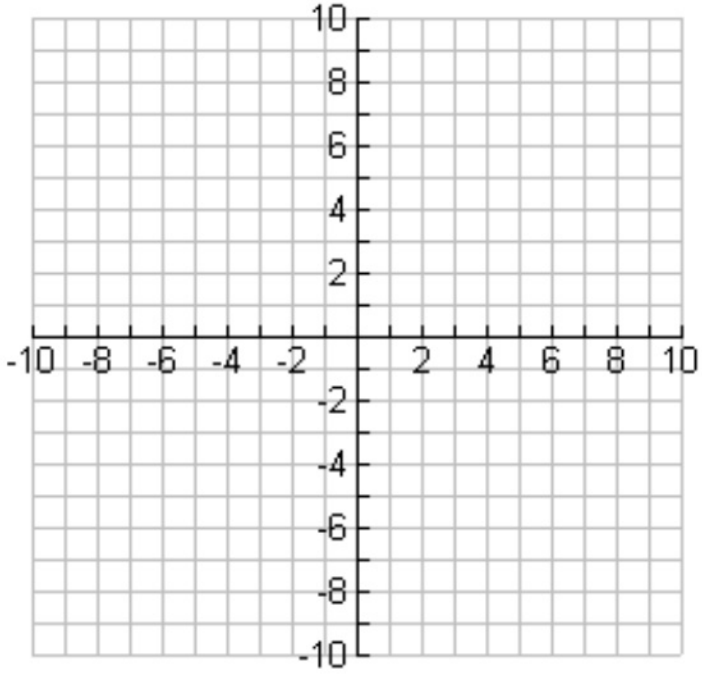
$$f(x) = (x - 4)^2 + 12$$

Find the x-intercept of the following function:

$$h(x) = (x + 12)^2$$

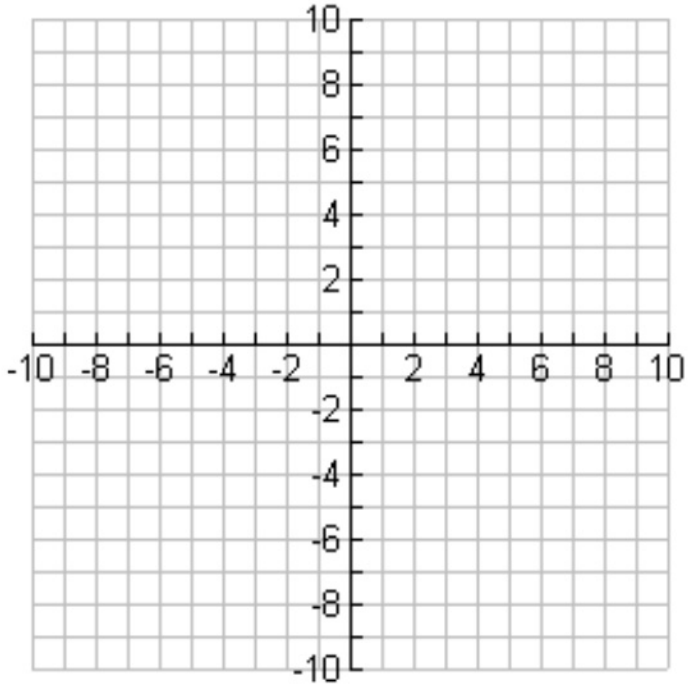
Find the vertex and intercepts, then sketch:

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



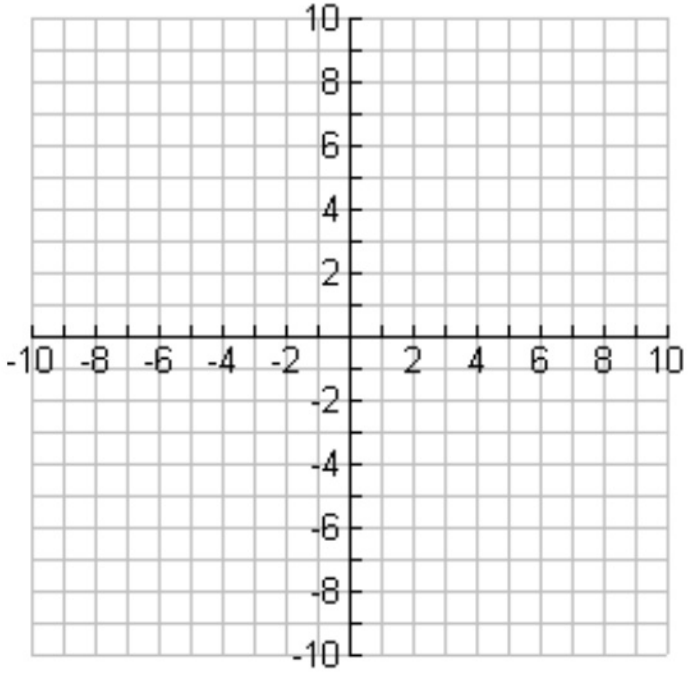
Find the vertex and intercepts, then sketch:

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

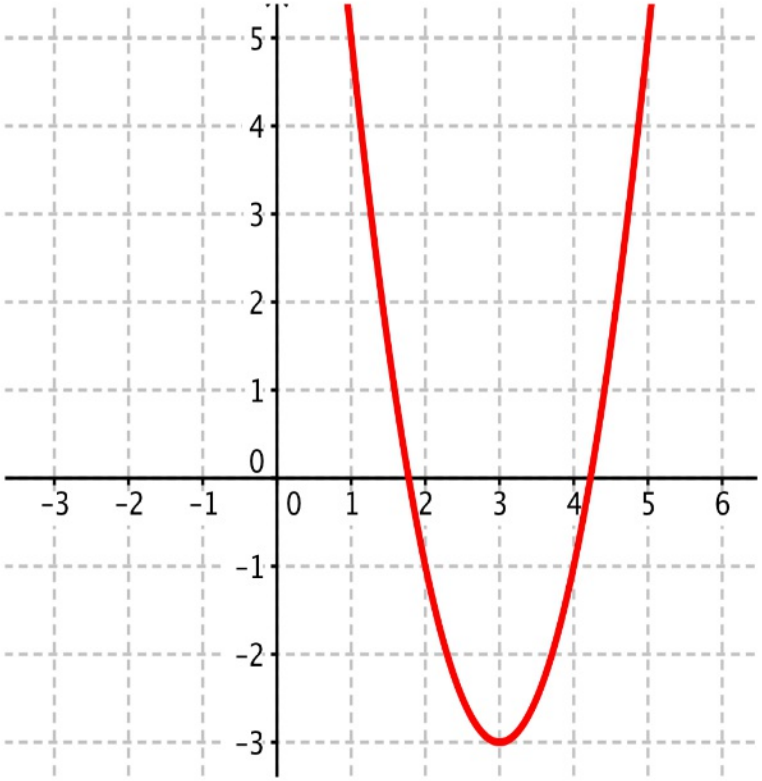


Find the vertex and intercepts, then sketch:

$$f(x)=-3(x+5)^2+4$$



Find the equation for the graph



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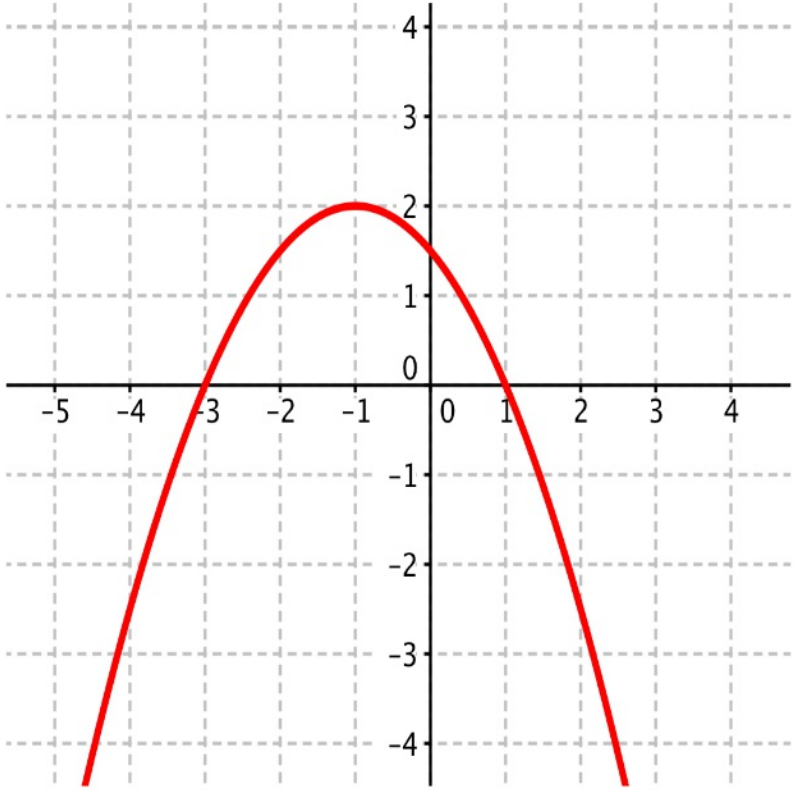
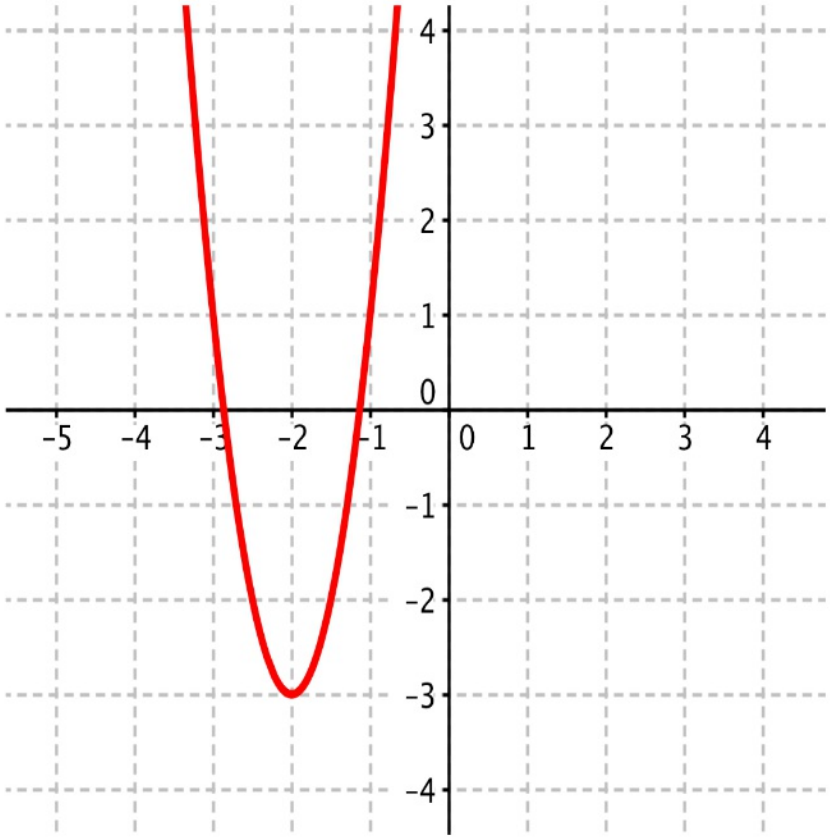


Find the equation for the graph



Convert the vertex form into standard form:

$$f(x) = (x+3)^2 + 1$$

Convert the vertex form into standard form:

$$f(x) = 4(x - 7)^2$$

Convert the vertex form into standard form:

$$f(x) = -2(x + 4)^2 - 6$$

Convert the standard form into vertex form:

$$f(x) = x^2 - 6x + 1$$

Convert the standard form into vertex form:

$$f(x) = 3x^2 + 4x - 5$$

Convert the standard form into vertex form:

$$f(x) = -5x^2 + 9$$

Convert the standard form into vertex form:

$$f(x) = -2x^2 - 3x + 11$$