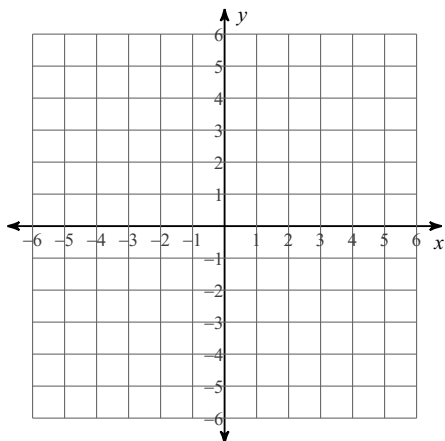
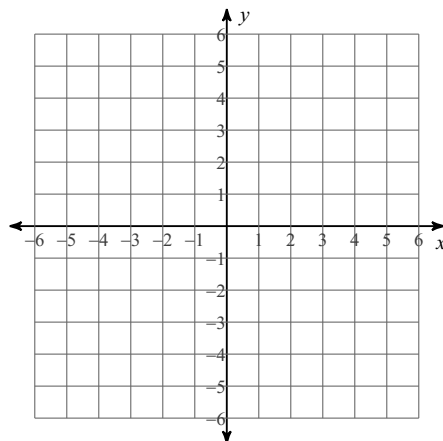


Graph each quadratic function.

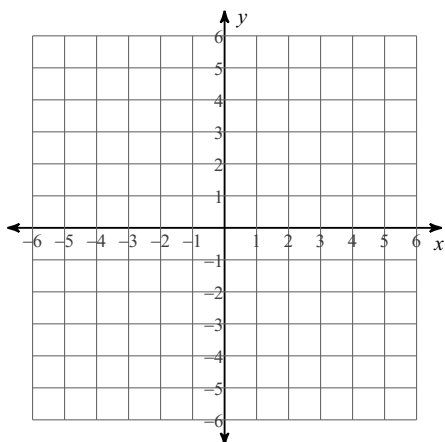
1) $y = (x + 3)^2 - 3$



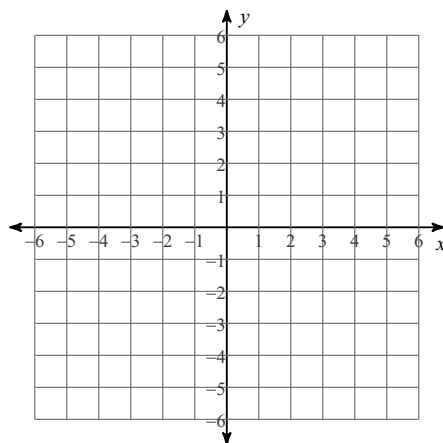
2) $y = -(x - 2)^2 + 1$



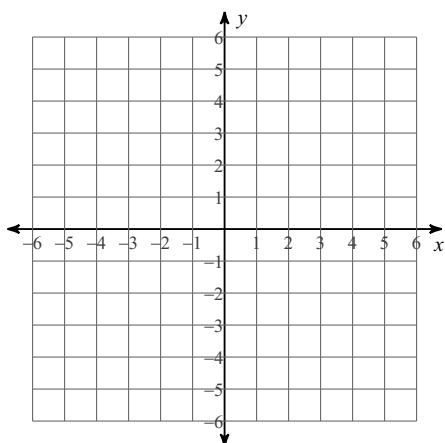
3) $y = -2(x + 4)^2 + 4$



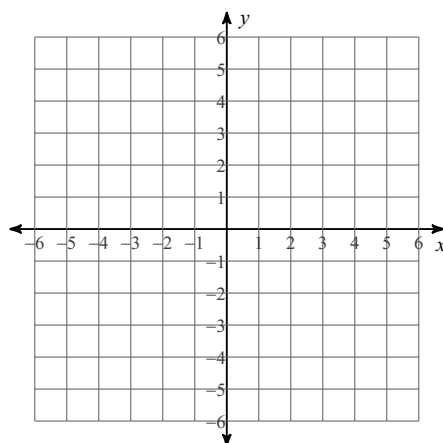
4) $y = \frac{1}{2}x^2 - 2$



5) $y = 3(x - 2)^2 - 6$

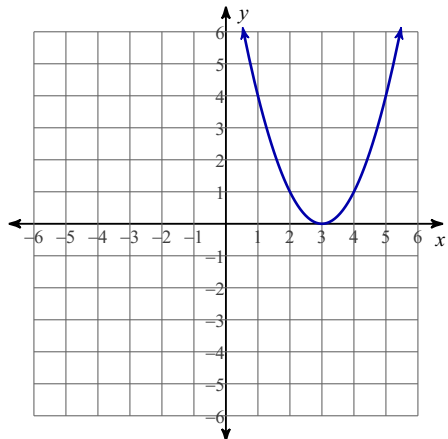


6) $y = -(x + 3)^2$

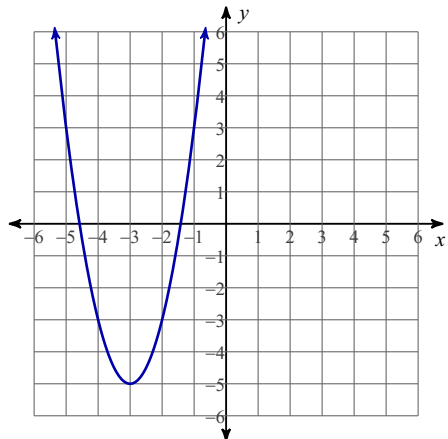


Write the equation of the given parabola in VERTEX FORM.

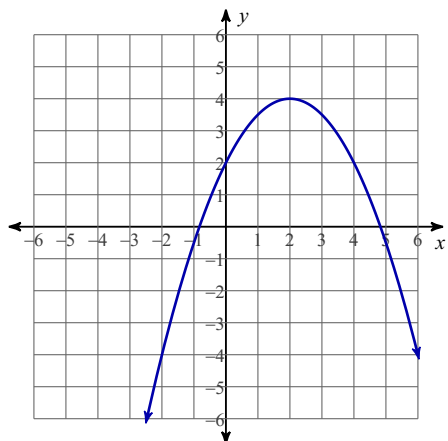
7)



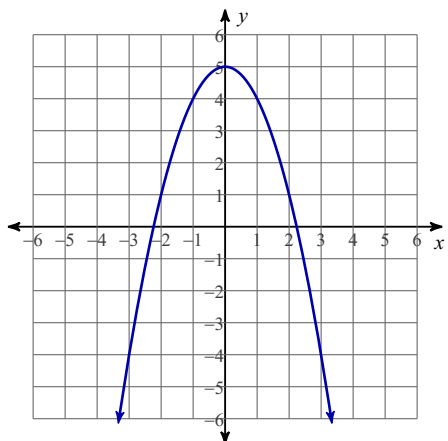
8)



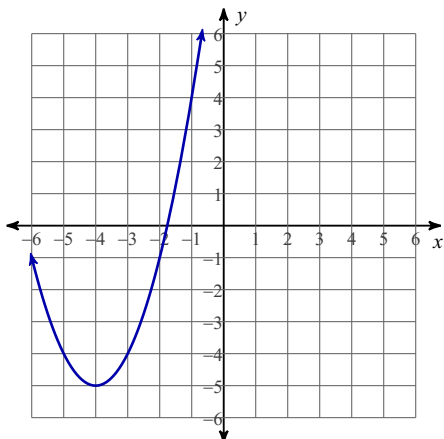
9)



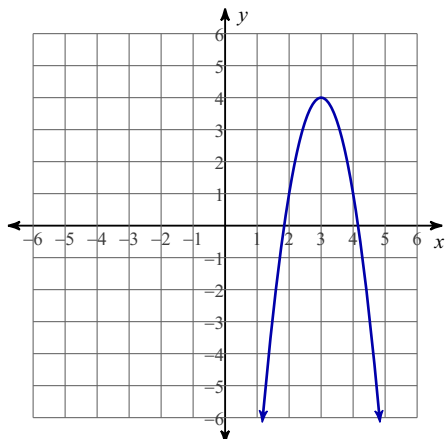
10)



11)



12)



Convert the quadratic function to Standard Form.

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

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

15) $y = \frac{1}{2}(x - 4)^2 + 2$

16) $y = 3(x + 2)^2 - 5$

Find the vertex of each parabola, and then write the equation in vertex form.

17) $y = x^2 + 6x + 11$

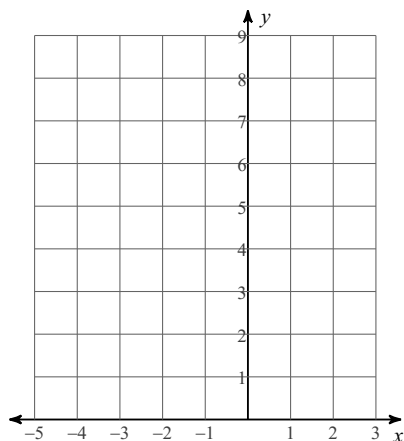
18) $y = 2x^2 + 8x + 7$

19) $y = -2x^2 + 12x - 14$

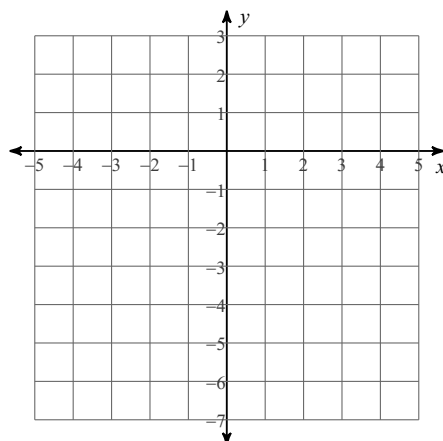
20) $y = 3x^2 + 18x + 31$

Sketch the graph of each function.

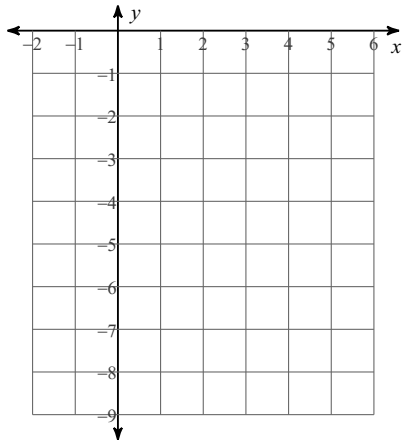
21) $y = x^2 + 6x + 13$



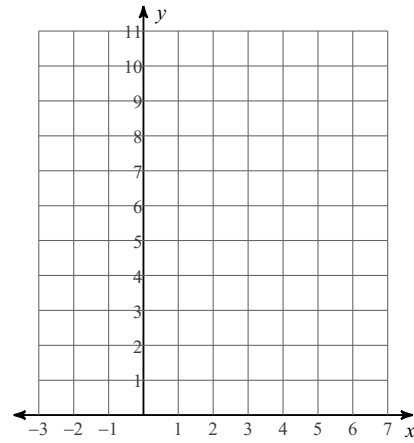
22) $y = -2x^2 - 8x - 6$



23) $y = -x^2 + 4x - 8$

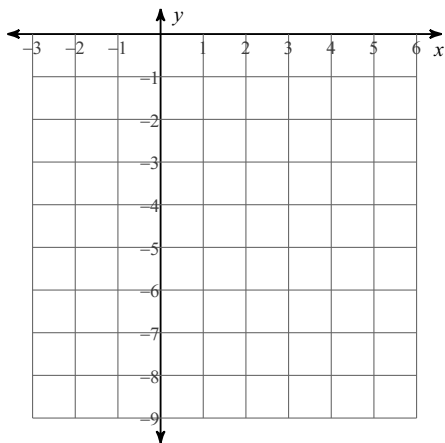


24) $y = 2x^2 - 8x + 10$

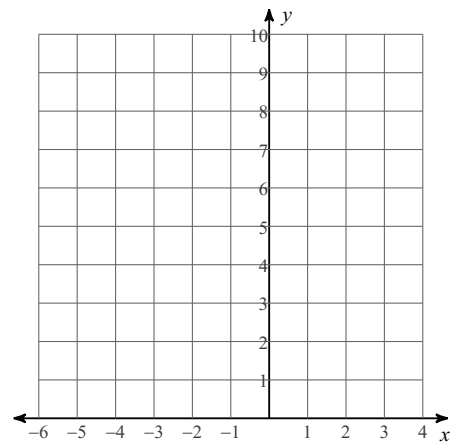


Sketch the graph of each function. Don't forget about the shading.

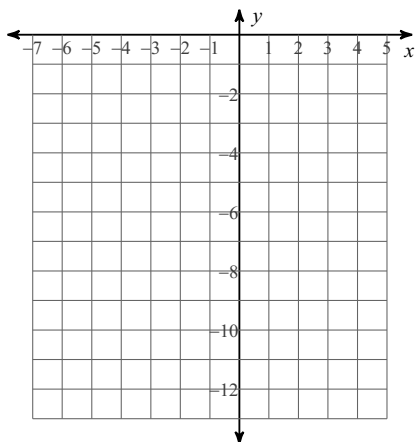
25) $y \geq -(x - 4)^2 - 4$



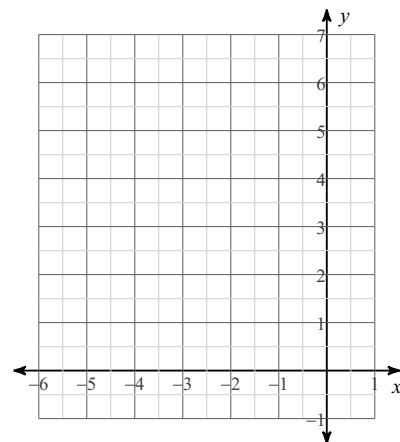
26) $y > 2(x - 2)^2 + 1$



27) $y < -2x^2 - 8x - 12$

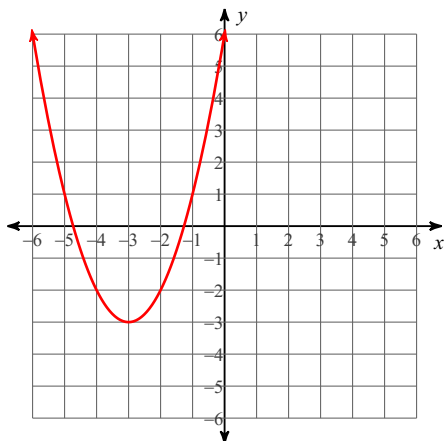


28) $y \leq x^2 + 8x + 17$

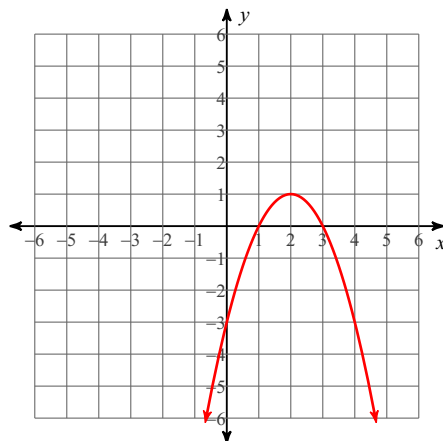


Graph each quadratic function.

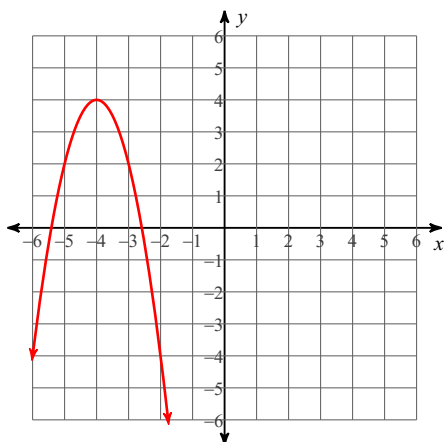
1) $y = (x + 3)^2 - 3$



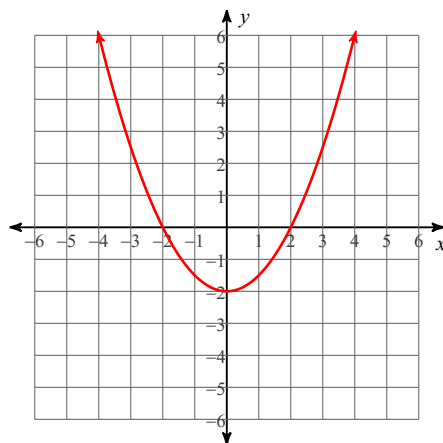
2) $y = -(x - 2)^2 + 1$



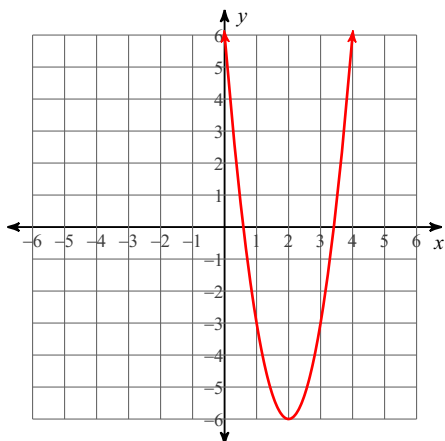
3) $y = -2(x + 4)^2 + 4$



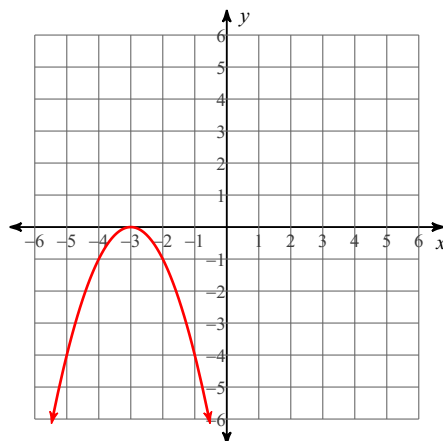
4) $y = \frac{1}{2}x^2 - 2$



5) $y = 3(x - 2)^2 - 6$

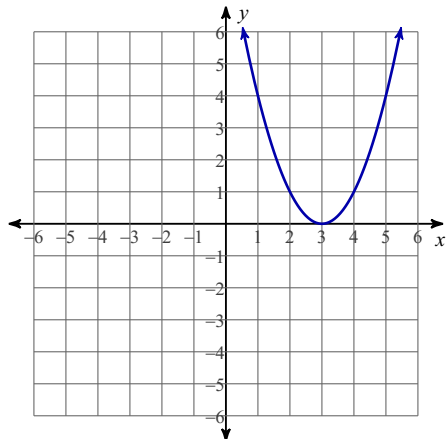


6) $y = -(x + 3)^2$



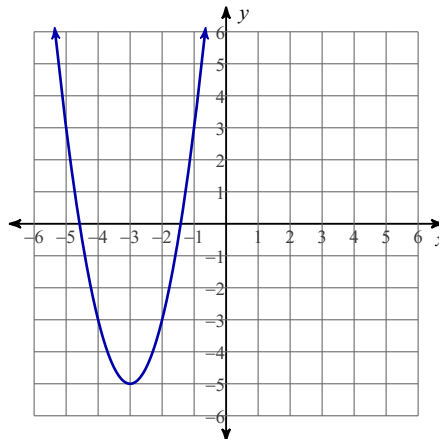
Write the equation of the given parabola in VERTEX FORM.

7)



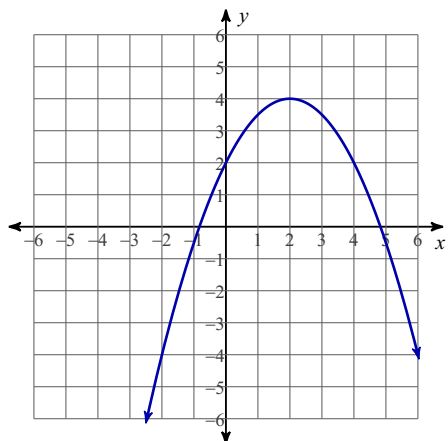
$$y = (x - 3)^2$$

8)



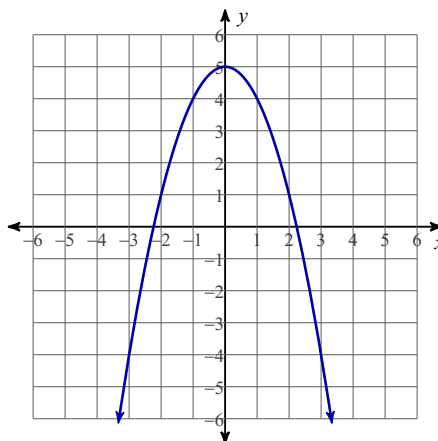
$$y = 2(x + 3)^2 - 5$$

9)



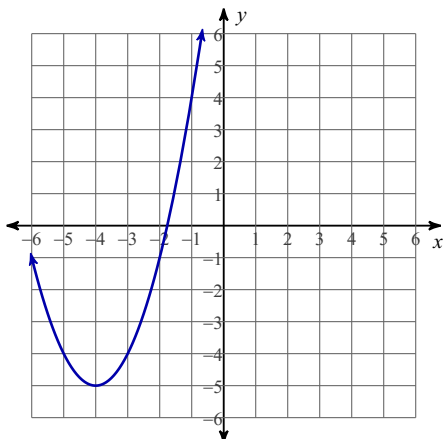
$$y = -\frac{1}{2}(x - 2)^2 + 4$$

10)



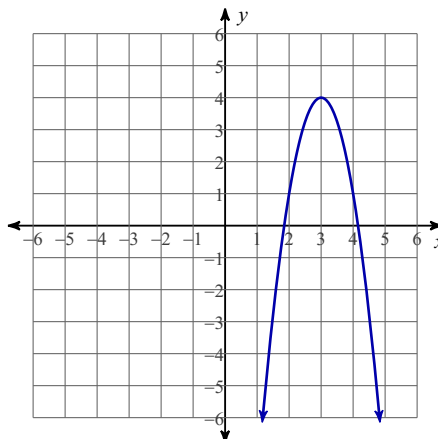
$$y = -x^2 + 5$$

11)



$$y = (x + 4)^2 - 5$$

12)



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

Convert the quadratic function to Standard Form.

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

$y = x^2 + 6x + 7$

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

$y = -2x^2 - 4x + 1$

15) $y = \frac{1}{2}(x - 4)^2 + 2$

$y = \frac{1}{2}x^2 - 4x + 10$

16) $y = 3(x + 2)^2 - 5$

$y = 3x^2 + 12x + 7$

Find the vertex of each parabola, and then write the equation in vertex form.

17) $y = x^2 + 6x + 11$

$(-3, 2); y = (x + 3)^2 + 2$

18) $y = 2x^2 + 8x + 7$

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

19) $y = -2x^2 + 12x - 14$

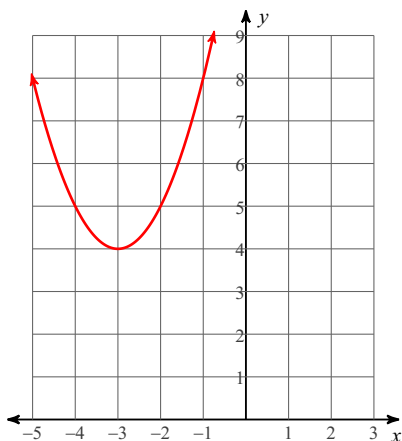
$(3, 4); y = -2(x - 3)^2 + 4$

20) $y = 3x^2 + 18x + 31$

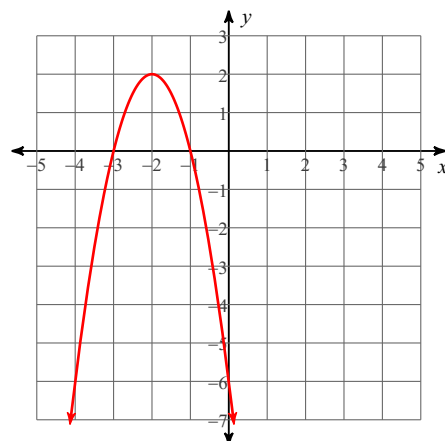
$(-3, 4); y = 3(x + 3)^2 + 4$

Sketch the graph of each function.

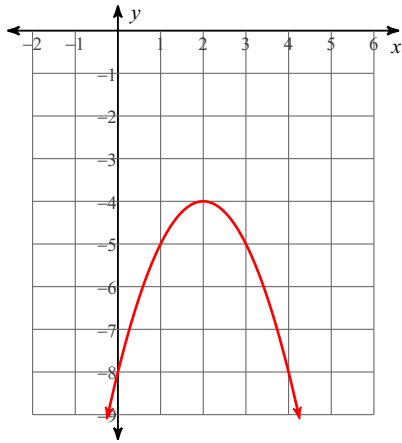
21) $y = x^2 + 6x + 13$



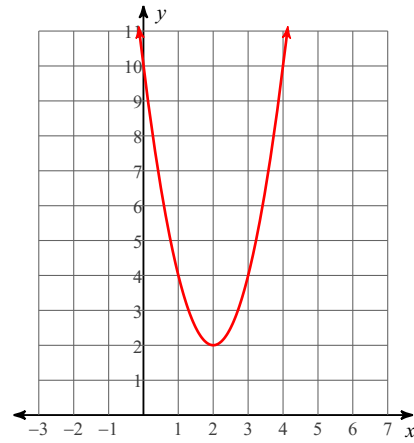
22) $y = -2x^2 - 8x - 6$



23) $y = -x^2 + 4x - 8$

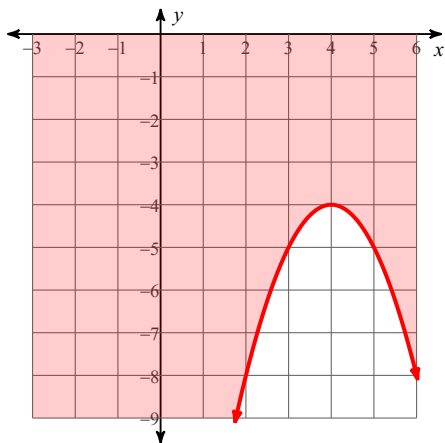


24) $y = 2x^2 - 8x + 10$

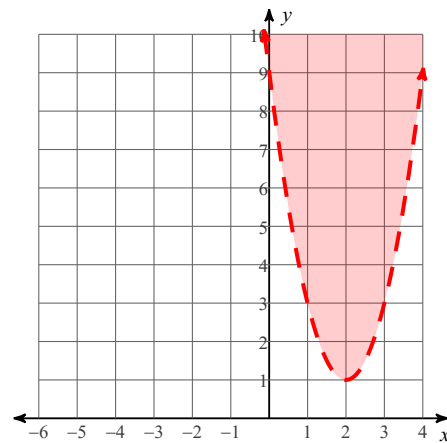


Sketch the graph of each function. Don't forget about the shading.

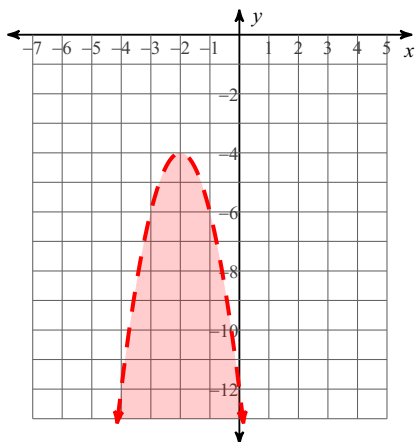
25) $y \geq -(x - 4)^2 - 4$



26) $y > 2(x - 2)^2 + 1$



27) $y < -2x^2 - 8x - 12$



28) $y \leq x^2 + 8x + 17$

