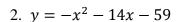
Convert from Standard Form to Vertex Form. Give the vertex and axis of symmetry.

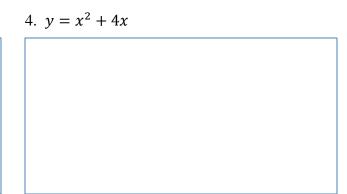
1. 
$$y = x^2 + 16x + 71$$







$$3. y = 2x^2 + 36x + 170$$



$$5. \ y = x^2 - 12x + 46$$

6. 
$$y = x^2 - 6x + 5$$

$$7. y + 6 = (x + 3)^2$$

$$8. \ x^2 - 12x + y + 40 = 0$$

Convert from Vertex Form to Standard Form.

$$1. y = (x - 1)^2 + 8$$

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





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

4. 
$$y = 2(x+1)^2 - 2$$

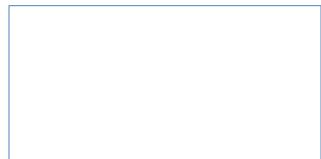




$$5. y = (x+3)^2 - 1$$

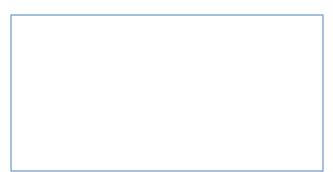
6. 
$$y = (x-2)^2 - 1$$





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

8. 
$$y = -(x+1)^2 + 2$$



## 5.9 Answers

Page 1  $1 y = (x + 8)^2 + 7$ , AOS: x = -8, Vertex  $(-8, 7) 2 y = -(x + 7)^2 - 10$ , AOS: x = -7, Vertex  $(-7, -10) 3 y = 2(x + 9)^2 + 9$ , AOS: x = -9, Vertex  $(-9, 8) 4 y = (x + 2)^2 - 4$ , AOS: x = -2, Vertex  $(-2, 4) 5 y = (x - 6)^2 + 10$ , AOS: x = 6, Vertex  $(6, 10) 6 y = (x - 3)^2 - 4$ , AOS: x = 3, Vertex  $(3, -4) 7 y = (x + 3)^2 - 6$ , AOS: x = -3, Vertex  $(-3, 6) 8 y = -(x - 6)^2 - 4$ , AOS: x = 6, Vertex (6, -4)

Page 2 
$$\boxed{1}$$
  $y = x^2 - 2x + 9$   $\boxed{2}$   $y = 2x^2 + 12x + 13$   $\boxed{3}$   $y = -x^2 + 8x - 13$   $\boxed{4}$   $y = 2x^2 + 4x$   $\boxed{5}$   $y = x^2 + 6x + 8$   $\boxed{6}$   $y = x^2 - 4x + 3$   $\boxed{7}$   $y = 3x^2 + 24x + 50$   $\boxed{8}$   $y = -x^2 - 2x + 3$