3.3 Practice A

In Exercises 1–4, solve the equation using square roots. Check your solution(s).

1.
$$x^2 - 4x + 4 = 9$$

2.
$$v^2 - 12v + 36 = 49$$

3.
$$n^2 - 20n + 100 = 40$$

4.
$$p^2 + 14p + 49 = 2$$

In Exercises 5–8, find the value of c that makes the expression a perfect square trinomial. Then write the expression as the square of a binomial.

5.
$$x^2 + 8x + c$$

6.
$$x^2 + 14x + c$$

7.
$$y^2 - 18y + c$$

8.
$$v^2 + 26v + c$$

In Exercises 9–14, solve the equation by completing the square.

9.
$$x^2 + 8x + 5 = 0$$

10.
$$h^2 - 10h - 4 = 0$$

11.
$$t^2 - 12t + 10 = 0$$

12.
$$s^2 + 14s - 9 = 0$$

13.
$$y(y + 6) = 2$$

14.
$$g(g+10)=-6$$

In Exercises 15–18, determine whether you would use factoring, square roots, or completing the square to solve the equation. Explain your reasoning. Then solve the equation.

15.
$$(x-3)^2 = 25$$

16.
$$x^2 + 5x + 4 = 0$$

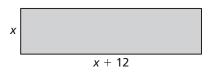
17.
$$x^2 - 6x + 9 = 0$$

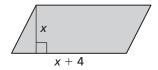
18.
$$x^2 - 10x - 8 = 0$$

In Exercises 19 and 20, find the value of x.

19. Area of rectangle
$$= 64$$

20. Area of parallelogram
$$= 20$$





In Exercises 21 and 22, write the quadratic function in vertex form. Then identify the vertex.

21.
$$f(x) = x^2 + 10x + 32$$

22.
$$g(x) = x^2 - 6x - 2$$