

7.3**Practice A**

In Exercises 1–9, find the product.

1. $(x + 7)^2$

2. $(2w - 3)^2$

3. $(4q + 2)^2$

4. $(n + 4)(n - 4)$

5. $(v - 7)(v + 7)$

6. $(5x + 2)(5x - 2)$

7. $(6 + a)(6 - a)$

8. $\left(\frac{1}{3} + p\right)\left(\frac{1}{3} - p\right)$

9. $(x + 2y)(x - 2y)$

In Exercises 10–12, use special product patterns to find the product.

10. $19 \cdot 21$

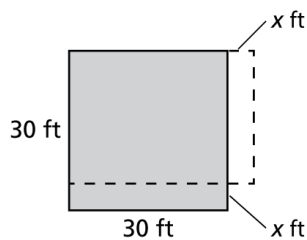
11. $49 \cdot 51$

12. 33^2

13. Describe and correct the error in finding the product.

$$\begin{array}{l} \times \\ (x - 5)^2 = x^2 - 5^2 \\ = x^2 - 25 \end{array}$$

14. A contractor modifies the size of a kitchen.



- a. The area of the room after the modification is represented by $(30 + x)(30 - x)$. Find the product.
- b. Use the polynomial in part (a) to find the area when $x = 6$. Which room has the larger area, the original room or the new room? Explain.

In Exercises 15 and 16, find the product.

15. $(x^2 + 5)(x^2 - 5)$

16. $(y^4 - 2)^2$

7.3

Practice B

In Exercises 1–9, find the product.

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|-----------------------|---|---------------------------|
| 1. $(-6p + 3)^2$ | 2. $(3c - d)^2$ | 3. $(5x + 2y)^2$ |
| 4. $(9 + 4q)(9 - 4q)$ | 5. $\left(\frac{2}{3} + g\right)\left(\frac{2}{3} - g\right)$ | 6. $(3m + 8n)(3m - 8n)$ |
| 7. $(8 - 3u)(8 + 3u)$ | 8. $(-c + 9)(-c - 9)$ | 9. $(-3s - 7t)(-3s + 7t)$ |

In Exercises 10–12, use special product patterns to find the product.

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|------------|--------------|---------------------------------------|
| 10. 27^2 | 11. 40.5^2 | 12. $5\frac{1}{4} \cdot 4\frac{3}{4}$ |
|------------|--------------|---------------------------------------|

13. Describe and correct the error in finding the product.

$$\begin{aligned} \times (x + 5)(x - 5) &= x^2 + 5^2 \\ &= x^2 + 25 \end{aligned}$$

14. A circular helicopter landing pad has a radius of 200 feet. Inside the circular pad, red paint covers the outer area evenly, with a width of x feet. White paint covers the inner area.
- a. Write a polynomial that represents the area of the circle that is painted white. Write your answer in terms of π .
 - b. Use the polynomial in part (a) to find the area of the circle that is painted white when $x = 100$.

In Exercises 15 and 16, find the product.

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|-----------------------|--------------------------------|
| 15. $(3x^2 + 7y^2)^2$ | 16. $(z^4 - 3w^3)(z^4 + 3w^3)$ |
|-----------------------|--------------------------------|
17. Find k so that $25x^2 + 40x + k$ is the square of a binomial.
18. Find two numbers a and b such that $(a - b)^2 < (a + b)(a - b) < (a + b)^2$.
Find two numbers a and b such that this is not true.