

LESSON
9.2**Practice B**

For use with pages 561–568

Find the product.

1. $x^2(6x^2 - 3x - 1)$

2. $-5a^3(4a^4 - 3a + 1)$

3. $4d^2(-2d^3 + 5d^2 - 6d + 2)$

4. $(3x + 1)(2x - 5)$

5. $(2y + 3)(y - 5)$

6. $(6a - 3)(4a - 1)$

7. $(b - 8)(5b - 2)$

8. $(8m + 7)(2m + 3)$

9. $(-p + 2)(3p^2 + 1)$

10. $(2z - 7)(-z + 3)$

11. $(-3d + 10)(2d - 1)$

12. $(n + 1)(n^2 + 4n + 5)$

13. $(w - 3)(w^2 + 8w + 1)$

14. $(2s + 5)(s^2 + 3s - 1)$

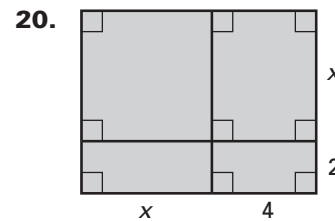
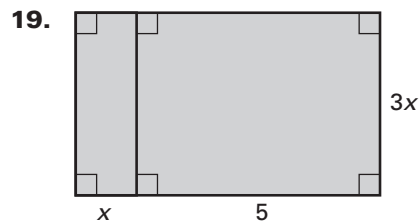
15. $(x^2 - 4xy + y^2)(5xy)$

Simplify the expression.

16. $a(3a + 1) + (a + 1)(a - 1)$

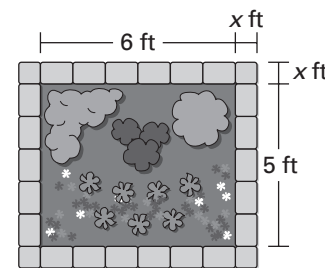
17. $(x + 2)(x + 5) - x(4x - 1)$

18. $(m + 7)(m - 3) + (m - 4)(m + 5)$

Write a polynomial for the area of the shaded region.

21. **Flower Bed** You are designing a rectangular flower bed that you will border using brick pavers. The width of the border around the bed will be the same on every side, as shown.

- Write a polynomial that represents the total area of the flower bed and the border.
- Find the total area of the flower bed and border when the width of the border is 1.5 feet.



22. **School Enrollment** During the period 1995–2002, the number S of students (in thousands) enrolled in school in the U.S. and the percent P (in decimal form) of this amount that are between 7 and 13 years old can be modeled by

$$S = 32.6t^3 - 376.45t^2 + 1624.2t + 66,939$$

and

$$P = 0.000005t^4 - 0.0003t^3 + 0.003t^2 - 0.007t + 0.4$$

where t is the number of years since 1995.

- Find the values of S and P for $t = 0$. What does the product $S \cdot P$ mean for $t = 0$ in the context of this problem?
- Write an equation that models the number of students (in thousands) that are between 7 and 13 years old as a function of the number of years since 1995.
- How many students between 7 and 13 years old were enrolled in 1995?