LESSON 9.2 Practice A
For use with pages 561–568

Find the product.

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

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

3. $-3m(m^2 + 4m - 1)$

4. $d^2(4d^2 - 3d + 1)$

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

6. $-a^2(a^2 + 3a - 1)$

Use a table to find the product.

7. $(x + 1)(x - 4)$

8. $(y + 6)(y + 2)$

9. $(a - 5)(a - 3)$

10. $(2m + 1)(m + 3)$

11. $(3z + 4)(z - 5)$

12. $(d + 6)(3d - 1)$

**Use a vertical or a horizontal format to find the product.**

13. $(y + 8)(y - 3)$

14. $(n + 5)(n + 6)$

15. $(3x - 2)(x + 5)$

16. $(4a + 1)(2a - 1)$

17. $(w + 1)(w^2 + 2w + 1)$

18. $(m - 2)(m^2 - 2m + 3)$

Use the FOIL pattern to find the product.

19. $(y - 3)(8y + 1)$

20. $(5b - 1)(3b + 2)$

21. $(2d - 4)(3d - 1)$

22. $(3x + 1)(2x + 2)$

23. $(6x - 2)(x + 4)$

24. $(2s - 5)(s + 3)$

25. $(8c + 2)(5c - 7)$

26. $(8p - 3)(2p - 5)$

27. $(14t - 2)(t + 2)$

28. **Volume** You have come up with a plan for building a wooden box to hold all of your sports equipment as shown.

   a. Write a polynomial that represents the volume of the box.

   b. Find the volume of the box when $x = 10$.

   24 in.

   $(3x + 6)$ in.

   $(4x + 8)$ in.
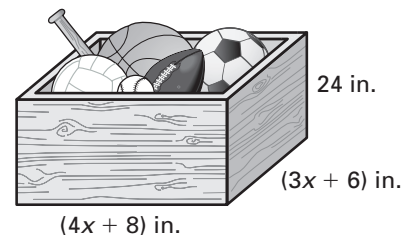
29. **National Park System** During the period 1990–2002, the number A of acres (in thousands) making up the national park system in the United States and the percent P (in decimal form) of this amount that is parks can be modeled by

   $A = 211t + 76{,}226$

   and

   $P = -0.0008t^2 + 0.009t + 0.6$

   where t is the number of years since 1990.

   a. Find the values of A and P for $t = 0$. What does the product $A \cdot P$ mean for $t = 0$ in the context of this problem?

   b. Write an equation that models the number of acres (in thousands) that are just parks as a function of the number of years since 1990.

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