

Extra Practice**8.1**

Name _____

In 1–12, simplify, if possible.

1. $3^2 \cdot 3^4$

2. $(2^3)^5$

3. $x^5 \cdot x^3$

4. $(y^2)^8$

5. $(2x)^3$

6. $(-3x^4)^2$

7. $(x^2)^7$

8. $(-2x)^3(-x^2)$

9. $(xy)^3(z^6)^2$

10. $(a^2bc^3)^4 \cdot (b^2c)^3$

11. $(-x)^3(-y^2)^4(xyz^5)^2$

12. $(2x)^3(2y^2)^4\left(\frac{1}{2}xy\right)^5$

In 13–24, simplify. Then evaluate the expression when $x = 2$ and $y = 1$.

13. $(x^3)^2$

14. $(xy^2)^3$

15. $(x^2y)(3x)$

16. $(x^4y^2)(y^5)$

17. $(-2xy)^3$

18. $(-3x)^2(2y)^3$

19. $(xy^2)^2(5y^3)$

20. $(2y)^4(3y^2)^2$

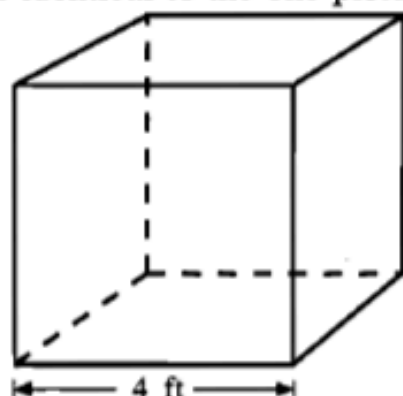
21. $(-3x)^3(4y^3)^2$

22. $(-xy)^4(xy^8)^2$

23. $(x^2y)(xy^2)^2$

24. $-2x^2y(x^3y^2)^3$

25. **Volume** Find the total volume of four cubic crates identical to the one pictured below.



26. **Volume** Find the total volume of two cylindrical tanks identical to the one pictured below.

