

## 7-3 Skills Practice

### *Rational Exponents*

Write each expression in radical form, or write each radical in exponential form.

1.  $(8x)^{\frac{1}{2}}$

2.  $6z^{\frac{1}{2}}$

3.  $\sqrt{19}$

4.  $\sqrt{11}$

5.  $19x^{\frac{1}{2}}$

6.  $\sqrt{34}$

7.  $\sqrt{27g}$

8.  $33gh^{\frac{1}{2}}$

9.  $\sqrt{13abc}$

**Simplify.**

10.  $\left(\frac{1}{16}\right)^{\frac{1}{4}}$

11.  $\sqrt[5]{3125}$

12.  $729^{\frac{1}{3}}$

13.  $\left(\frac{1}{32}\right)^{\frac{1}{5}}$

14.  $\sqrt[6]{4096}$

15.  $1024^{\frac{1}{5}}$

16.  $\left(\frac{16}{625}\right)^{\frac{1}{4}}$

17.  $\sqrt[6]{15,625}$

18.  $117,649^{\frac{1}{6}}$

**Solve each equation.**

19.  $2^x = 512$

20.  $3^x = 6561$

21.  $6^x = 46,656$

22.  $5^x = 125$

23.  $3^{x-3} = 243$

24.  $4^{x-1} = 1024$

25.  $6^{x-1} = 1296$

26.  $2^{4x+3} = 2048$

27.  $3^{3x+3} = 6561$