

## 7-5

## Practice

Form G

## Rational Exponents and Radicals

What is the value of each expression?

1.  $\sqrt[3]{64}$

2.  $\sqrt[3]{125}$

3.  $\sqrt[5]{32}$

4.  $\sqrt{100}$

5.  $\sqrt[4]{1}$

6.  $\sqrt{225}$

7.  $\sqrt[3]{729}$

8.  $\sqrt{289}$

9.  $\sqrt[3]{243}$

Write each expression in radical form.

10.  $b^{\frac{3}{2}}$

11.  $(36x)^{\frac{1}{2}}$

12.  $25y^{\frac{1}{2}}$

13.  $81s^{\frac{2}{3}}$

14.  $(72b)^{\frac{1}{2}}$

15.  $(125a)^{\frac{2}{3}}$

16.  $(40x)^{\frac{1}{3}}$

17.  $36t^{\frac{1}{4}}$

18.  $(99r)^{\frac{1}{2}}$

Write each expression in exponential form.

19.  $\sqrt[3]{b^4}$

20.  $\sqrt{(3x)^4}$

21.  $\sqrt[3]{125d^4}$

22.  $\sqrt{49a}$

23.  $\sqrt[3]{(64b)^2}$

24.  $\sqrt[4]{256b^5}$

25.  $\sqrt{144d^4}$

26.  $\sqrt[3]{(27x)^2}$

27.  $\sqrt{625a^5}$

28. You can use the formula  $S = 10m^{\frac{2}{3}}$  to approximate the surface area  $S$ , in square centimeters, of a horse with mass  $m$ , in grams. What is the surface area of a horse with a mass of  $4.5 \times 10^5$  grams? Round your answer to the nearest whole square centimeter.

**7-5****Practice**

Form K

**Rational Exponents and Radicals**

What is the value of each expression? The first one has been started for you.

1.  $\sqrt{36} = \sqrt{6 \cdot 6}$

2.  $\sqrt{100}$

3.  $\sqrt[3]{64}$

4.  $\sqrt[3]{125}$

5.  $\sqrt[3]{1}$

6.  $\sqrt[4]{256}$

Write each expression in radical form. The first one has been started for you.

7.  $x^{\frac{1}{2}} = \sqrt[2]{x^1}$

8.  $(25x^2)^{\frac{1}{2}}$

9.  $x^{\frac{2}{3}}$

10.  $15x^{\frac{3}{4}}$

11.  $(27x^3)^{\frac{1}{3}}$

12.  $16t^{\frac{1}{5}}$

Write each expression in exponential form.

13.  $\sqrt[3]{x}$

14.  $\sqrt{a^3}$

15.  $\sqrt{16a}$

16.  $\sqrt{(49w)^2}$

17.  $\sqrt[3]{125d^2}$

18.  $\sqrt{(2m)^4}$