

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 4.5×10^5 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. $\sqrt{(2m)^4}$