3.1 Practice

1. 225 is a perfect square. Evaluate $\sqrt{225}$.

2. 49 is a perfect square. Evaluate $\sqrt{49}$.

3. 144 is a perfect square. Evaluate $\sqrt{144}$.

4. 169 is a perfect square. Evaluate $\sqrt{169}$.

Solve the equation. Use a comma to separate answers as needed. Simplify your answer and round to the nearest tenth as needed.

5. $x^2 = 25$

6. $y^2 = 64$

7. $z^2 = \frac{25}{64}$

8. $y^2 = 98$

9. $x^2 = \frac{9}{49}$

10. $y^2 = 45$

11. A square table cloth has an area of 68 inches². About how long is each side?

12. Solve the equation $c^2 = 900$. Simplify your answer. Use a comma to separate answers as needed.

13. You and a friend are completing homework together. The equation you are both working on is $a^2 = 49$. Your friend incorrectly writes $a = -7$. What is the correct answer? What error did your friend make?

3.2 Practice

1. Use the fact that -343 is a perfect cube to evaluate $\sqrt[3]{-343}$. Write an integer or a simplified fraction.

Find the cube root.

2. $\sqrt[3]{-27}$

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

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

5. $\sqrt[3]{-1,728}$

6. $\sqrt[3]{-512}$

7. $\sqrt[3]{8}$

Solve the equation. Simplify your answer. Write an integer, proper fraction, or mixed fraction, as needed.

8. $t^3 = 1,000$

9. $v^3 = 2,197$

10. $b^3 = \frac{1}{64}$

11. $x^3 = \frac{64}{125}$

12. $q^3 = 27$

13. $z^3 = \frac{8}{1,000}$

14. The volume of a cube is $64\,in^3$. How long is each side?

15. Find the value of $d^3 = 2,744$. The equation $c^3 = p$ can have zero, one or two solutions. What can you say about the number of solutions of the equation $c^3 = p$? Explain.

16. Solve the equation $s^3 = 15\frac{40}{64}$ for s.