

Practice 17.3

Name _____

Simplify the expression. If any variables are present, assume that they are positive.

1) $\sqrt[3]{xy^5} \cdot \sqrt[3]{x^{10}y^{14}}$
 ID: DEV1R 17.3.1-5+

2) $\sqrt{3} \cdot \sqrt{4x^3}$
 ID: DEV1R 17.3.1-7+

3) $\frac{\sqrt[3]{448}}{\sqrt[3]{7}}$
 ID: DEV1R 17.3.2-2+

4) $\frac{\sqrt{4xy^3}}{\sqrt{2x}}$
 ID: DEV1R 17.3.2-3+

Complete the equation.

5) $\sqrt{75} = \underline{\hspace{1cm}} \sqrt{3}$
 ID: DEV1R 17.3.5-1+

Simplify the radical expression by factoring out the largest perfect nth power.

6) $\sqrt{180}$
 ID: DEV1R 17.3.6-1+

7) $-\sqrt{32}$
 ID: DEV1R 17.3.6-2+

Simplify the radical expression by factoring out the largest perfect nth power. Assume that all variables are positive.

8) $-\sqrt[3]{512x^4y^5}$
 ID: DEV1R 17.3.7-3+

9) $\sqrt[4]{16a^4}$
 ID: DEV1R 17.3.7-5+

10) $\sqrt[3]{\frac{y^7}{216}}$
 ID: DEV1R 17.3.7-7+

Simplify the expression. If any variables exist, assume that they are positive and write your answer in radical notation.

11) $\sqrt[4]{x^2} \cdot \sqrt[5]{x^3}$
 ID: DEV1R 17.3.8-3+

Solve the problem.

12) The cost of manufacturing clocks is given by $c = 81(n + 25)^{1/2}$, where c is the cost in dollars and n is the number produced. What is the cost when no clocks are produced?
 ID: DEV1R 17.2.9-5+

Answer Key

Testname: WKS_17.3

1) $x^3y^6\sqrt[3]{x^2y}$

ID: DEV1R 17.3.1-5+

2) $2x\sqrt{3x}$

ID: DEV1R 17.3.1-7+

3) 4

ID: DEV1R 17.3.2-2+

4) $y\sqrt{2y}$

ID: DEV1R 17.3.2-3+

5) 5

ID: DEV1R 17.3.5-1+

6) $6\sqrt{5}$

ID: DEV1R 17.3.6-1+

7) $-4\sqrt{2}$

ID: DEV1R 17.3.6-2+

8) $-8xy\sqrt[3]{xy^2}$

ID: DEV1R 17.3.7-3+

9) 2a

ID: DEV1R 17.3.7-5+

10) $\frac{y^2\sqrt[3]{y}}{6}$

ID: DEV1R 17.3.7-7+

11) $x\sqrt[10]{x}$

ID: DEV1R 17.3.8-3+

12) \$405

ID: DEV1R 17.2.9-5+