

## Rationalize Radicals 2

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Rationalize the denominator. Assume all variables have positive values.

1)  $\frac{2}{\sqrt{2}}$  1) \_\_\_\_\_

A) 2

B)  $\sqrt{2}$

C) 1

D)  $2\sqrt{2}$

2)  $\frac{5}{\sqrt{7}}$  2) \_\_\_\_\_

A)  $\frac{25\sqrt{7}}{7}$

B) 54

C)  $5\sqrt{7}$

D)  $\frac{5\sqrt{7}}{7}$

3)  $\frac{9}{\sqrt{5}}$  3) \_\_\_\_\_

A)  $\frac{81}{5\sqrt{5}}$

B)  $\frac{9}{5\sqrt{5}}$

C)  $9\sqrt{5}$

D) 34

4)  $\frac{8}{\sqrt{p}}$  4) \_\_\_\_\_

A)  $8\sqrt{p}$

B)  $\frac{8}{p}$

C)  $\frac{64\sqrt{p}}{p}$

D)  $\frac{8\sqrt{p}}{p}$

Rationalize the denominator. Assume all variables have nonzero values.

5)  $\frac{3}{\sqrt[3]{4}}$  5) \_\_\_\_\_

A)  $\frac{3\sqrt[3]{16}}{4}$

B)  $\frac{3\sqrt[3]{4}}{4}$

C)  $\frac{3\sqrt[3]{16}}{16}$

D)  $\frac{3\sqrt[3]{48}}{4}$

6)  $\frac{\sqrt[3]{3}}{\sqrt[3]{7}}$  6) \_\_\_\_\_

A)  $\frac{\sqrt[3]{21}}{7}$

B) 21

C)  $\frac{\sqrt[3]{147}}{7}$

D)  $\frac{\sqrt[3]{1029}}{7}$

7)  $\frac{3}{\sqrt{y}}$  7) \_\_\_\_\_

A)  $\frac{3\sqrt{y^2}}{y}$

B) 3y

C)  $\frac{3\sqrt{y^2}}{3\sqrt{y^2}}$

D)  $\frac{3\sqrt{y}}{y}$

Rationalize the denominator. Assume all variables have positive values.

8)  $4\sqrt[4]{\frac{81}{y}}$  8) \_\_\_\_\_

A)  $\frac{4\sqrt[4]{3}}{y}$

B)  $\frac{4\sqrt[4]{y^3}}{y^2}$

C)  $\frac{4\sqrt[4]{y}}{y}$

D)  $\frac{4\sqrt[4]{y^2}}{y}$

## Rationalize Radicals 2

9)  $\frac{12}{\sqrt[4]{x^2}}$

9) \_\_\_\_\_

A)  $\frac{12\sqrt[4]{x^2}}{x}$

B)  $\frac{4\sqrt[4]{12x^2}}{x}$

C)  $\frac{12\sqrt[4]{x^3}}{x}$

D)  $\frac{12\sqrt[4]{x}}{x}$

Simplify. Assume all variables have non-negative values.

10)  $\sqrt{\frac{18}{x}}$

10) \_\_\_\_\_

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

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

C)  $3\sqrt{2x}$

D)  $\frac{\sqrt{3x}}{x}$

11)  $\sqrt{\frac{25}{12}}$

11) \_\_\_\_\_

A)  $\frac{5\sqrt{3}}{6}$

B)  $\frac{5\sqrt{3}}{3}$

C)  $5\sqrt{3}$

D) 12

12)  $\sqrt{\frac{7}{z^5}}$

12) \_\_\_\_\_

A)  $\frac{z\sqrt{7z}}{z^3}$

B)  $\frac{\sqrt{7z}}{z^3}$

C)  $\frac{\sqrt{7z}}{z^2}$

D)  $\frac{\sqrt{7}}{z^3}$

13)  $\sqrt{\frac{4}{5y}}$

13) \_\_\_\_\_

A)  $\frac{\sqrt{5y}}{5y}$

B)  $\frac{2\sqrt{5y}}{5y^2}$

C)  $\frac{2\sqrt{5y}}{5y}$

D)  $\frac{2\sqrt{5y}}{y}$

Rationalize the denominator.

14)  $\frac{7}{9 - \sqrt{6}}$

14) \_\_\_\_\_

A)  $\frac{63 + 7\sqrt{6}}{-3}$

B)  $\frac{63 - 7\sqrt{6}}{75}$

C)  $\frac{7}{9} - \frac{7}{\sqrt{6}}$

D)  $\frac{63 + 7\sqrt{6}}{75}$

15)  $\frac{\sqrt{2}}{\sqrt{7} + 4}$

15) \_\_\_\_\_

A)  $\frac{3\sqrt{14} + 7\sqrt{2}}{28}$

B)  $\frac{\sqrt{14} + 4\sqrt{2}}{-9}$

C)  $\frac{\sqrt{14} - 4\sqrt{2}}{11}$

D)  $\frac{\sqrt{14} - 4\sqrt{2}}{-9}$

16)  $\frac{7 - \sqrt{6}}{7 + \sqrt{6}}$

16) \_\_\_\_\_

A)  $\frac{55 - 14\sqrt{6}}{43}$

B)  $\frac{43 - 14\sqrt{6}}{55}$

C) 1

D)  $\frac{55 + 14\sqrt{6}}{43}$

## Answer Key

- 1) B
- 2) D
- 3) B
- 4) D
- 5) A
- 6) C
- 7) A
- 8) A
- 9) A
- 10) B
- 11) A
- 12) B
- 13) C
- 14) D
- 15) D
- 16) A