

Radical Functions - Rationalize Denominator

Date _____ Period _____

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Simplify.

1) $\frac{5\sqrt{4}}{\sqrt{9}}$

2) $\frac{5\sqrt{25}}{5\sqrt{4}}$

3) $\frac{5\sqrt{15}}{\sqrt{20}}$

4) $\frac{5\sqrt{5}}{5\sqrt{20}}$

5) $\frac{5 - 2\sqrt{2}}{4\sqrt{25}}$

6) $\frac{5 + 3\sqrt{3}}{5\sqrt{9}}$

7) $\frac{4 - \sqrt{3}}{3\sqrt{4}}$

8) $\frac{3 + \sqrt{2}}{4\sqrt{4}}$

9) $\frac{2}{2 - \sqrt{3}}$

10) $\frac{3}{-2 + \sqrt{5}}$

11) $-\frac{3}{5 + 5\sqrt{3}}$

12) $\frac{5}{\sqrt{5} + 3\sqrt{3}}$

13) $\frac{5 - 3\sqrt{5}}{-4 - \sqrt{2}}$

14) $\frac{\sqrt{5} + 4}{3 - \sqrt{2}}$

15) $\frac{-1 - \sqrt{2}}{2 + 2\sqrt{3}}$

16) $\frac{4 + \sqrt{2}}{3 + 5\sqrt{2}}$

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Simplify.

1) $\frac{5\sqrt{4}}{\sqrt{9}}$

$$\frac{10}{3}$$

2) $\frac{5\sqrt{25}}{5\sqrt{4}}$

$$\frac{5}{2}$$

3) $\frac{5\sqrt{15}}{\sqrt{20}}$

$$\frac{5\sqrt{3}}{2}$$

4) $\frac{5\sqrt{5}}{5\sqrt{20}}$

$$\frac{1}{2}$$

5) $\frac{5 - 2\sqrt{2}}{4\sqrt{25}}$

$$\frac{5 - 2\sqrt{2}}{20}$$

6) $\frac{5 + 3\sqrt{3}}{5\sqrt{9}}$

$$\frac{5 + 3\sqrt{3}}{15}$$

7) $\frac{4 - \sqrt{3}}{3\sqrt{4}}$

$$\frac{4 - \sqrt{3}}{6}$$

8) $\frac{3 + \sqrt{2}}{4\sqrt{4}}$

$$\frac{3 + \sqrt{2}}{8}$$

9) $\frac{2}{2 - \sqrt{3}}$

$$4 + 2\sqrt{3}$$

10) $\frac{3}{-2 + \sqrt{5}}$

$$6 + 3\sqrt{5}$$

11) $-\frac{3}{5 + 5\sqrt{3}}$

$$\frac{3 - 3\sqrt{3}}{10}$$

12) $\frac{5}{\sqrt{5} + 3\sqrt{3}}$

$$\frac{-5\sqrt{5} + 15\sqrt{3}}{22}$$

13) $\frac{5 - 3\sqrt{5}}{-4 - \sqrt{2}}$

$$\frac{-20 + 5\sqrt{2} + 12\sqrt{5} - 3\sqrt{10}}{14}$$

14) $\frac{\sqrt{5} + 4}{3 - \sqrt{2}}$

$$\frac{3\sqrt{5} + \sqrt{10} + 12 + 4\sqrt{2}}{7}$$

15) $\frac{-1 - \sqrt{2}}{2 + 2\sqrt{3}}$

$$\frac{1 - \sqrt{3} + \sqrt{2} - \sqrt{6}}{4}$$

16) $\frac{4 + \sqrt{2}}{3 + 5\sqrt{2}}$

$$\frac{-2 + 17\sqrt{2}}{41}$$