

A2.N.5: Rationalizing Denominators 2: Rationalize a denominator containing a radical expression

- 1 The expression $\frac{3 - \sqrt{8}}{\sqrt{3}}$ is equivalent to
- 2 Which expression is equivalent to $\frac{4}{3 + \sqrt{2}}$?
- 3 The expression $\frac{7}{2 - \sqrt{3}}$ is equivalent to
- 4 The expression $\frac{11}{\sqrt{3} - 5}$ is equivalent to
- 5 The expression $\frac{7}{3 - \sqrt{2}}$ is equivalent to
- 6 The expression $\frac{1}{5 - \sqrt{13}}$ is equivalent, to
- 7 The expression $\frac{5}{\sqrt{5} - 1}$ is equivalent to
- 8 The expression $\frac{12}{3 + \sqrt{3}}$ is equivalent to
- 9 The expression $\frac{4}{5 - \sqrt{13}}$ is equivalent to
- 10 The fraction $\frac{3}{\sqrt{6} - 1}$ is equivalent to
- 11 The expression $\frac{2}{1 - \sqrt{3}}$ is equivalent to
- 12 The expression $\frac{5}{3 + \sqrt{2}}$ is equivalent to
- 13 The expression $\frac{1}{7 - \sqrt{11}}$ is equivalent to
- 14 The expression $\frac{5}{4 - \sqrt{11}}$ is equivalent to
- 15 Which expression is equivalent to $\frac{\sqrt{3} + 5}{\sqrt{3} - 5}$?
- 16 Which expression is equal to $\frac{2 + \sqrt{3}}{2 - \sqrt{3}}$?
- 17 The expression $\frac{5 + \sqrt{7}}{5 - \sqrt{7}}$ is equivalent to
- 18 Which expression is equivalent to $\frac{\sqrt{7} + \sqrt{2}}{\sqrt{7} - \sqrt{2}}$?

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Answer Section

1 ANS:

$$\sqrt{3} - \frac{2}{3}\sqrt{6}$$

$$\frac{3 - \sqrt{8}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{3\sqrt{3} - \sqrt{24}}{3} = \frac{3\sqrt{3} - 2\sqrt{6}}{3} = \sqrt{3} - \frac{2}{3}\sqrt{6}$$

REF: 081518a2

2 ANS:

$$\frac{12 - 4\sqrt{2}}{7}$$

REF: 060305b

3 ANS:

$$14 + 7\sqrt{3}$$

REF: 010405b

4 ANS:

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

REF: 080420b

5 ANS:

$$3 + \sqrt{2}$$

REF: 010516b

6 ANS:

$$\frac{5 + \sqrt{13}}{12}$$

REF: 080506b

7 ANS:

$$\frac{5\sqrt{5} + 5}{4}$$

REF: 010613b

8 ANS:

$$6 - 2\sqrt{3}$$

REF: 080606b

9 ANS:

$$\frac{5 + \sqrt{13}}{3}$$

$$\frac{4}{5 - \sqrt{13}} \cdot \frac{5 + \sqrt{13}}{5 + \sqrt{13}} = \frac{4(5 + \sqrt{13})}{25 - 13} = \frac{5 + \sqrt{13}}{3}$$

REF: 061116a2

10 ANS:

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

REF: 060709b

11 ANS:

$$-1 - \sqrt{3}$$

REF: 080716b

12 ANS:

$$\frac{15 - 5\sqrt{2}}{7}$$

REF: 010902b

13 ANS:

$$\frac{7 + \sqrt{11}}{38}$$

$$\frac{1}{7 - \sqrt{11}} \cdot \frac{7 + \sqrt{11}}{7 + \sqrt{11}} = \frac{7 + \sqrt{11}}{49 - 11} = \frac{7 + \sqrt{11}}{38}$$

REF: 011404a2

14 ANS:

$$4 + \sqrt{11}$$

$$\frac{5}{4 - \sqrt{11}} \cdot \frac{4 + \sqrt{11}}{4 + \sqrt{11}} = \frac{5(4 + \sqrt{11})}{16 - 11} = \frac{5(4 + \sqrt{11})}{5} = 4 + \sqrt{11}$$

REF: 061509a2

15 ANS:

$$-\frac{14 + 5\sqrt{3}}{11}$$

$$\frac{\sqrt{3} + 5}{\sqrt{3} - 5} \cdot \frac{\sqrt{3} + 5}{\sqrt{3} + 5} = \frac{3 + 5\sqrt{3} + 5\sqrt{3} + 25}{3 - 25} = \frac{28 + 10\sqrt{3}}{-22} = -\frac{14 + 5\sqrt{3}}{11}$$

REF: 061012a2

16 ANS:

$$7+4\sqrt{3}$$

REF: 080307b

17 ANS:

$$\frac{16+5\sqrt{7}}{9}$$

REF: 060905b

18 ANS:

$$\frac{9+2\sqrt{14}}{5}$$

REF: fall9906b