

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

1 Express $\frac{5}{3-\sqrt{2}}$ with a rational denominator, in simplest radical form.

2 Express $\frac{3}{\sqrt{5}+1}$ as an equivalent fraction with a rational denominator.

3 Express $\frac{3}{3-\sqrt{5}}$ as a fraction with a rational denominator.

4 Express $\frac{5}{4-\sqrt{13}}$ as an equivalent fraction with a rational denominator.

5 Express $\frac{1}{4-\sqrt{3}}$ as an equivalent fraction with a rational denominator.

6 Express $\frac{4}{3+\sqrt{2}}$ as an equivalent fraction with a rational denominator.

7 Express $\frac{3}{\sqrt{3}+1}$ as an equivalent fraction with a rational denominator.

8 Express the reciprocal of $3 - \sqrt{7}$ in simplest radical form with a rational denominator.

9 Express $\frac{2}{5 - 2\sqrt{3}}$ as a fraction with a rational denominator.

10 Write the fraction $\frac{\sqrt{3}}{\sqrt{3} - 1}$ with a rational denominator.

11 Simplify: $\frac{2 - \sqrt{2}}{2 + \sqrt{2}}$

12 Express in simplest form: $\frac{\frac{1}{\sqrt{5}} + \frac{1}{\sqrt{5}}}{\sqrt{5}}$

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Answer Section

1 ANS:

$$\frac{5(3 + \sqrt{2})}{7}$$

PTS: 2

REF: fall0928a2

2 ANS:

$$\frac{3\sqrt{5} - 3}{4}$$

PTS: 2

REF: 018610siii

3 ANS:

$$\frac{3(3 + \sqrt{5})}{4}$$

PTS: 2

REF: 068613siii

4 ANS:

$$\frac{5(4 + \sqrt{13})}{3}$$

PTS: 2

REF: 069512siii

5 ANS:

$$\frac{4 + \sqrt{3}}{13}$$

PTS: 2

REF: 088612siii

6 ANS:

$$\frac{4(3 - \sqrt{2})}{7}$$

PTS: 2

REF: 068712siii

7 ANS:

$$\frac{3(\sqrt{3} - 1)}{2}$$

PTS: 2

REF: 088907siii

8 ANS:

$$\frac{3 + \sqrt{7}}{2}$$

PTS: 2

REF: 011026b

9 ANS:

$$\frac{10+4\sqrt{3}}{13}$$

PTS: 2

REF: 089009siii

10 ANS:

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

PTS: 2

REF: 069014siii

11 ANS:

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

PTS: 4

REF: 090404al

12 ANS:

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

PTS: 2

REF: 089410siii