



## Rationalizing the Denominator

### With a Binomial Containing a Radical in the Denominator

**Procedure:** 1. Multiply by ONE in the fractional form using the conjugate.

**Example:**

$$\begin{aligned} \text{Simplify } \frac{2}{\sqrt{3}-1}. \\ \frac{2}{\sqrt{3}-1} \rightarrow \frac{2}{\sqrt{3}-1} \times \frac{\sqrt{3}+1}{\sqrt{3}+1} &= \frac{2(\sqrt{3}+1)}{(\sqrt{3})^2 + \sqrt{3} - \sqrt{3} - 1}, \\ &= \frac{2(\sqrt{3}+1)}{2}, \\ &= \sqrt{3}+1. \end{aligned}$$

**Simplify the following.**

1.  $\frac{1}{\sqrt{5}+2}$

2.  $\frac{3}{\sqrt{2}+1}$

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

4.  $\frac{2}{\sqrt{6}-2}$

5.  $\frac{12}{\sqrt{7}+1}$

6.  $\frac{1}{\sqrt{10}-3}$

7.  $\frac{4}{\sqrt{2}+2}$

8.  $\frac{-3}{\sqrt{7}-1}$

9.  $\frac{1}{\sqrt{5}+3}$