

## Day 2 – Rationalizing the Denominator Review – Notes

The process of eliminating a radical from an expression's denominator is called rationalizing the denominator.

Explore:

a.  $\sqrt{3} \cdot \sqrt{3} = \sqrt{9} = 3$

b.  $\sqrt{5} \cdot \sqrt{5} = \sqrt{25} = 5$

c.  $\sqrt{x} \cdot \sqrt{x} = \sqrt{x^2} = x$

Conclusion: <sup>symbol</sup> The square root disappears when you square a radical. The solution is the number underneath the square root

Examples:

a.  $\frac{3}{\sqrt{16}} = \frac{3}{4}$   
 perfect square

b.  $\frac{3}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{3\sqrt{2}}{2}$

c.  $\frac{5}{\sqrt{10}} \cdot \frac{\sqrt{10}}{\sqrt{10}} = \frac{5\sqrt{10}}{10} = \frac{\sqrt{10}}{2}$

d.  $\frac{3}{\sqrt{8}} \cdot \frac{\sqrt{8}}{\sqrt{8}} = \frac{3\sqrt{8}}{8} = \frac{3 \cdot 2\sqrt{2}}{8} = \frac{6\sqrt{2}}{8} = \frac{3\sqrt{2}}{4}$   
 $\sqrt{8} = \sqrt{2 \cdot 2 \cdot 2} = 2\sqrt{2}$