The Radical Quotient Rule

This rule says that you can write radical division in two ways:

$$\frac{\sqrt{x}}{\sqrt{y}} = \sqrt{\frac{x}{y}}$$

If both ways of writing radical division are correct, why have <u>two</u> ways instead of one?

You have these two methods to help you get the <u>SIMPLEST</u> (most reduced) answer. In other words, use whichever method will get you a perfect square.

ex

$\frac{\sqrt{72}}{\sqrt{2}}$

First, check to see if your $\sqrt{}$s are already perfect squares. In this case, they're not.

Since they're not perfect squares we rewrite the problem:

$$\frac{\sqrt{72}}{\sqrt{2}} \rightarrow \sqrt{\frac{72}{2}}$$

Divide 72 by 2 to get 36. 36 is a perfect square, so we do:

$$\sqrt{36} = \boxed{6}$$