

Simplifying Expressions With Rational Exponents Lesson

Reduce the expression to the simplest form.

$$5^{1/2} \times 5^{3/2}$$

In our problem the root value (5) is the same. This tells us that the multiplication property of rational exponents applies. Based on the multiplication property of rational exponents:

$$a^r \times a^s = a^{r+s}$$

Applying this to our problem:

$$5^{1/2} \times 5^{3/2} = 5^{(1/2 + 3/2)} = 5^{4/2} = 5^2 = 25$$

