

Name _____

Date _____

Multiplying Radical Expressions Lesson

Find the product of the radical values.

$$\sqrt{4} \bullet \sqrt{9}$$



There are basic rules that apply to finding the products of radicals. It can be all summed up with this rule flow:

$$\begin{array}{c} \text{radical symbol} \\ \swarrow \quad \searrow \\ \sqrt{\text{a}} \bullet \sqrt{\text{b}} = \sqrt{\text{ab}} \\ \uparrow \quad \uparrow \quad \uparrow \\ \text{radicand a} \quad \text{radicand b} \quad \text{product of radicands a and b} \end{array}$$

The word radicand is the math term that resides with the square root symbol. This flow shows how when multiplying two radicals, we combine the two radicands to simplify this operation. We will now apply this our original problem.

$$\sqrt{4} \bullet \sqrt{9} = \sqrt{36}$$

The product of these radicands is a perfect square of 36. $36 = 6 \bullet 6 = 6^2$

We can now apply this to simplify our perfect square.

$$\sqrt{6^2} = 6 \quad \text{the radical and exponent cancel one another out.}$$