

Sometimes, Always, or Never?

Provide at least three examples with three values of x and y . Be sure to check different kinds of values, like positives and negatives.

1. $3\sqrt{x} + 2\sqrt{x} = 5\sqrt{x}$

2. $3\sqrt{x} + 2\sqrt{y} = 5\sqrt{xy}$

3. $3\sqrt{xy} + 2\sqrt{xy} = 5\sqrt{xy}$

What conclusions can you draw from #1, #2, and #3 about adding radicals?

$$4. \sqrt{(x^2)} = x$$

$$5. \sqrt{(x^2)} = |x|$$

$$6. \sqrt[3]{(x^3)} = x$$

What conclusions can you draw from the results of #4, #5, and #6?

$$7. \sqrt{3x} \cdot \sqrt{2} = \sqrt{6x}$$

$$8. \sqrt{x} \cdot \sqrt{y} = \sqrt{xy}$$

What conclusions can you draw from the results of #7 and #8 about multiplying radicals?