When dividing radical expressions, you MUST \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_\_\_ from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. All "\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_" numbers must be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, as well as, any radical left in the numerator.

**How to divide radical expressions:**

Step 1: Rewrite the expression with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ radicals on \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Step 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Step 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. If the radical does not simplify out of the denominator, then you must \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the denominator.

|  |
| --- |
| 1.) |

**How to Rationalize the Denominator:**

Step 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by "just enough" to eliminate the radical in the denominator. To find the "just enough" piece, take the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Step 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the radical in the numerator.

Step 3: Simplify any \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ terms.

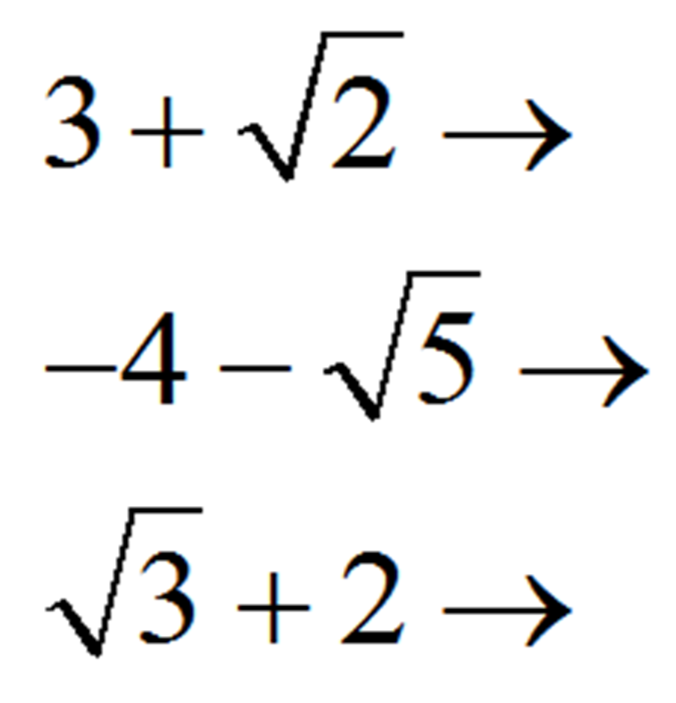
**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ simplify an “inside” and “outside” together...or leave a radical in the denominator!**

**Examples: Simplify completely.**

|  |  |
| --- | --- |
| **2.)** | **3.)** |
| **4.)** | |

**Special Cases:**

When there is a radical being added or subtracted in the denominator, we must multiply by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in order to rationalize the denominator.



**Examples: Simplify completely.**

|  |  |
| --- | --- |
| 5.) | 6.) |