Geometry Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review of Radicals Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What does it mean to say ? **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

So, in general √x means: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Square Root is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of Squared.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Memorize the following square roots. These are the most common!**

 = \_\_\_\_\_\_ = \_\_\_\_\_\_ = \_\_\_\_\_\_ = \_\_\_\_\_\_

= \_\_\_\_\_\_ = \_\_\_\_\_\_ = \_\_\_\_\_\_ = \_\_\_\_\_\_

 = \_\_\_\_\_\_ = \_\_\_\_\_\_ = \_\_\_\_\_\_ = \_\_\_\_\_\_

**Simplify each radical expression: Rewrite each radical as a product of two factors (one being the largest perfect square each number is divisible by).**

1.  2.  3. 

4.  5.  6. 

**When simplifying radicals with a coefficient, remember: “outsides with outsides” and “insides with insides.”**

1.  2.  3. 

4.  5.  6. 

Simplify each radical expression with variables.

1.  2.  3. 

4. $\sqrt{80x^{100}y^{49}}$ 5.  6. 

**Multiplying Radicals. (Remember to simplify completely.) “outsides with outsides” and “insides with insides.”**

1.  2.  3. 

4.  5.  6. 

7.  8.  9. 

10.  11.  12. 

**Dividing Radicals. (Remember to simplify completely.)**

1.  2.  3. 

4.  5.  6. 

**IMPORTANT: \* When simplifying, never leave a radical in the denominator of a fraction. \***

Always \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the denominator.

When the denominator is a monomial, multiply both the numerator and the denominator by whatever makes the denominator an expression that can be simplified so that it is no longer a radical.

Example 1: Simplify  Example 2: Simplify 

Sometimes you need to multiply by whatever makes the denominator a perfect square.

Example 3: Simplify  Example 4: Simplify 

If the radicand is a fraction, rewrite the numerator and denominator as two separate radicals.

Example 5: Simplify Example 6: Simplify 

Example 7: Simplify  Example 8: Simplify

Example 9: Simplify  Example 10: Simplify 

**Dividing Radicals Practice**

1.  2.  3.  4. 

5.  6.  7. 