SWBAT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Sqaure Roots**

  **In The Calculator …** Know how to use $\sqrt{}$ button

**Simplifying Radicals:** 1) Write the prime factors of the radicand.

 2) Find the 2-of-a-kinds

 3) Take out the root.

**Square numbers are: \_\_\_\_, \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_,\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_,\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_\_,**

Examples:

|  |  |  |
| --- | --- | --- |
| $$\sqrt{16}$$ | $$\sqrt{x^{2}}$$ | $$\sqrt{144}$$ |
| $$\sqrt{38}$$ | $$\sqrt{62}$$ | $$\sqrt{27}$$ |
| $$\sqrt{x^{7}}$$ | $$\sqrt{x^{4}y^{5}}$$ | $$\sqrt{x^{5}y^{8}z^{3}}$$ |
| $$\sqrt{32x^{2}}$$ | $$\sqrt{18x^{4}y^{3}}$$ | $$\sqrt{25x^{3}y^{5}z^{6}}$$ |
| **Challenge**$$\sqrt{x^{64}}$$ | $$\sqrt[3]{27}$$ | $$\sqrt[3]{16x^{3}y^{5}}$$ |

**Multiplying Radicals** – If the index is the same, 1) multiply the \_\_\_\_\_\_\_\_\_\_\_\_\_ 2) multiply the \_\_\_\_\_\_\_\_\_\_\_\_and simplify!

|  |  |  |
| --- | --- | --- |
| $$\sqrt{3}\*\sqrt{5}$$ | $$\sqrt{2}\*4\sqrt{5}$$ | $$7\sqrt{2}\*3\sqrt{3}$$ |
| $$4\sqrt{3}\*2\sqrt{2}$$ | $$9\sqrt{7}\*-4\sqrt{3}$$ | $$5\sqrt{11}\*8\sqrt{7}$$ |
| $$\sqrt{6}\*\sqrt{3}$$ | $$\sqrt{7}\*2\sqrt{14}$$ | $$2\sqrt{5}\*\sqrt{10}$$ |
| $$\sqrt{3x^{2}}\*2\sqrt{3x^{4}}$$ | $$3\sqrt{2}\*\sqrt{20x^{3}}$$ | $$9\sqrt{18x^{2}}\*2\sqrt{3x}$$ |

HW: U6 L2 Homework

When we **add and subtract radicals,** we can only combine **LIKE RADICALS!**

**LIKE RADICALS** have the **SAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_** and the **SAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Adding and Subtracting Radicals – ONLY** add and subtract the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ !**

 **NEVER ADD RADICANDS NEVER ADD RADICANDS NEVER ADD RADICANDS**

|  |  |  |
| --- | --- | --- |
| $$4\sqrt{3}+2\sqrt{3}$$ | $$-2\sqrt{3}-3\sqrt{3}$$ | $$\sqrt{7}+\sqrt{7}$$ |
| $$5\sqrt{12}-\sqrt{3}$$ | $$\sqrt{7}-\sqrt{63}$$ | $$\sqrt{18}-\sqrt{32}$$ |
| $$14\sqrt{8}+\sqrt{18}$$ | $$\sqrt{20}+10\sqrt{45}$$ | $$-\sqrt{12}+3\sqrt{3}$$ |
| $$2\sqrt{45}-2\sqrt{24}$$ | $$3\sqrt{18}-\sqrt{50}$$ | $$-2\sqrt{20}+2\sqrt{18}-2\sqrt{5}$$ |