U9 Day 1 Notes: Simplifying Radicals

A-REI.4b: I can solve quadratic equations by inspection, taking square roots and using the quadratic formula.

Vocabulary:

Square Roots ($\sqrt{\ }$): a number that is _____ by itself.
*****Square roots are NOT the same thing as dividing by 2.*****

Radicand: the number _____ the square root.

Radical: another word for _____ _____.

Write down the answers of the <u>perfect squares</u> below:

$\sqrt{1}$ $\sqrt{4}$ $\sqrt{9}$ $\sqrt{16}$ $\sqrt{25}$ $\sqrt{36}$ $\sqrt{49}$ $\sqrt{64}$ $\sqrt{81}$ $\sqrt{100}$ $\sqrt{121}$ $\sqrt{144}$ $\sqrt{169}$

Square roots of negative numbers: _____

$\sqrt{-9} =$ $-\sqrt{9} =$ $\pm\sqrt{9} =$

Use Kahoot to answer the questions below (https://tinyurl.com/lvawkq3):

1. $\sqrt{4}$ 2. $-\sqrt{16}$ 3. $\pm\sqrt{100}$ 4. $\sqrt{49}$ 5. $-\sqrt{625}$

6. $\sqrt{-1}$ 7. $\sqrt{0}$ 8. $\pm\sqrt{81}$ 9. $\sqrt{-121}$ 10. $-\sqrt{121}$

What happens if we take the square root of a <u>non-perfect</u> square?

$\sqrt{20} =$ _____

_____ are not accurate, so we do not use them when simplifying radicals.

Instead, use _____ squares that are factors of the radicand.

Simplify each radical expression.

1. $-\sqrt{18}$

2. $\sqrt{10}$

3. $\sqrt{45}$

4. $4\sqrt{25}$

5. $2\sqrt{32}$

6. $-5\sqrt{72}$

7. $\sqrt{24}$

8. $\sqrt{14}$

9. $-3\sqrt{44}$

10. $2\sqrt{63}$

11. $4\sqrt{27}$

12. $-4\sqrt{300}$