

# Algebra I

## Notes Section 2.1

### Find Square Roots and Compare Real Numbers

#### Big Ideas

1. Students will know that all positive numbers have a positive and negative square root.
2. Students will know that square roots of positive integers or rational numbers that are not perfect square are irrational numbers that can be approximated by nonrepeating decimals.
3. Students will be able to evaluate square roots, compare real numbers by graphing on a number line and approximate square roots of irrational numbers.

**Square Root:** \_\_\_\_\_

**Radicand:** \_\_\_\_\_

**EXAMPLE 1** Evaluate the expression.

a)  $\pm\sqrt{36}$

b)  $\sqrt{49}$

c)  $-\sqrt{4}$

**Perfect Square:** a number that has a perfect  $\sqrt{\quad}$

**Perfect Squares:** \_\_\_\_\_

\_\_\_\_\_

**EXAMPLE 2** The top of a folding table is a square whose area is **945** inches squared. **Approximate the side length of the tabletop to the nearest inch.**

**Irrational Number:** \_\_\_\_\_  
 \_\_\_\_\_

**Real Number:** \_\_\_\_\_

**Integers:** \_\_\_\_\_

**Whole Numbers:** \_\_\_\_\_

**EXAMPLE 3** Tell whether each of the following numbers is a real number, a rational number, an irrational number, an integer, or a whole number:

	Real	Rational #	Irrational	Integer	Whole	
$\sqrt{24}$						
$\sqrt{100}$						
$-\sqrt{81}$						

**EXAMPLE 4** Order the numbers from least to greatest.

$\frac{4}{3}$	$-\sqrt{5}$	$\sqrt{13}$	$-2.5$	$\sqrt{9}$
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**Conditional Statement:** \_\_\_\_\_  
 \_\_\_\_\_

**EXAMPLE 5** Rewrite the given conditional statement in if-then form. Then tell whether the statement is True or False. If it is false, give a counterexample.

a) **Given:** No fractions are irrational numbers.

**Conditional Statement:** \_\_\_\_\_  
 \_\_\_\_\_

b) **Given:** All real numbers are rational numbers.

**Conditional Statement:** \_\_\_\_\_  
 \_\_\_\_\_