**Real Numbers, Distributive Property, Simplifying Radicals and Pythagorean Theorem Test**

**Study Guide**

**2.1: Use Integers and Rational Numbers**

 **- Be able to classify numbers as whole, integer, rational and irrational using all names that apply**

**Ex:** –7 **Ex: ** **Ex: ** \

* **Be able to order numbers from least to greatest**

**Ex: **

* **Be able to find absolute value and opposites of numbers**

**Ex:** Evaluate:  if *x* = –0.75

**2.5: Apply the Distributive Property**

 **- Be able to use the distributive property and identify and combine like terms**

**Ex:  Ex:  Ex: **

* **Be able to simplify division problems using the distributive property**

**Ex:  Ex:  Ex: **

**2.7: Find Square Roots and Compare Real Numbers**

 **- Be able to evaluate square roots, estimate square roots and order square roots**

**Ex: **= 49 **Ex:** Estimate between 2 integers

**11.2: Simplify Radical Expressions**

 **- Be able to write radical expressions in simplest form, including rationalizing the denominator**

**Ex:** $\sqrt{20}·\sqrt{15}$ **Ex:** $\sqrt{\frac{125}{4x³}}$ **Ex:** $\sqrt{27xy}·\sqrt{5y³}$

* **Be able to perform operations with radicals**

**Ex:** $\left(8\sqrt{3}+\sqrt{2}\right)\left(1-\sqrt{3}\right)$ **Ex:** $\left(3\sqrt{12}+5\right)²$ **Ex:** $\sqrt{15}+5\sqrt{3}-2\sqrt{27}$

**11.4: Apply the Pythagorean Theorem**

 **- Be able to use the Pythagorean Theorem to find missing sides of right triangles**

**Ex:** *a* = 30, *b* = 40 **Ex:** A leg: 15; Hypotenuse: 25

* **Be able to use the Pythagorean Theorem to decide if three sides could form a right triangle**

**Ex:** 9, 15, 20 **Ex:** 12, 72, 71

* **Use Pythagorean Theorem to solve real-world problems**

**Ex:** The playing bed of a pool table is in the shape of a rectangle, which measures 154 inches by 20 inches. What is the length of the diagonal of the table? Round your answer to the nearest inch.