

**Unit 1: Number Sense**

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

***Study Guide for Test***

**Directions:** Identify the following numbers as either **Rational or Irrational numbers**.  
Write the entire word **Rational or Irrational** on the line provided.

1. \_\_\_\_\_  $\overline{.1}$
2. \_\_\_\_\_  $\sqrt{50}$
3. \_\_\_\_\_  $\sqrt[3]{64}$
4. \_\_\_\_\_ 16.14
5. \_\_\_\_\_ 17.1267...

**Directions:** What two rational numbers do the following fall between? (3 points each)

6.  $\sqrt{20}$  falls between \_\_\_\_\_ and \_\_\_\_\_ on the number line  
but is closer to \_\_\_\_\_.
7.  $\sqrt[3]{29}$  falls between \_\_\_\_\_ and \_\_\_\_\_ on the number line.  
but is closer to \_\_\_\_\_.

**Directions: Convert the following fractions to decimals and decimals to fractions. All answers must be completely simplified. Show all work to receive full credit.**

8.  $\frac{7}{8} = \underline{\hspace{2cm}}$

9.  $\frac{7}{9} = \underline{\hspace{2cm}}$

10.  $.54 = \underline{\hspace{2cm}}$

11.  $.\bar{7} = \underline{\hspace{2cm}}$

**Directions: Simplify the following radical expressions.**

12.  $\sqrt{75} = \underline{\hspace{2cm}}$

13.  $\sqrt[3]{128} = \underline{\hspace{2cm}}$

14.  $\sqrt[3]{56} = \underline{\hspace{2cm}}$

15.  $\sqrt{300} = \underline{\hspace{2cm}}$

**Directions: Solve the following equations. Show all work to receive full credit. All answers must be completely simplified.**

16.  $x^2 = 121$

17.  $x^3 = 8$

18.  $x^3 = 125$

19.  $x^3 = 56$