Name: _____ Class: _____ Date: _____ ID: A

Lesson #1: Classifying Real Numbers and Pre-Algebra Review Assignment (Reference: Lesson #1 in Textbook)

Problem

1. **For each number, identify the subsets of real numbers to which it belongs.**

   1. -73

2. $\frac{5}{9}$

3. 18π

4. **Identify the set of numbers that best describes each situation. Explain your choice.**

   4. The number of people on a bus.

5. The area of a circular platform.

6. The value of coins in a purse.

7. The surface area of a cube is defined as $6s^2$, where s is the length of the side of the cube. If s is an integer, then would the surface area of a cube be a rational or irrational number? Explain your reasoning.

8. Tyrone ran 7 laps on the quarter-mile track during practice. Which subset of real numbers would include the distance Tyrone ran at practices?

9. Shayla is balancing her checkbook. Which subset of real numbers best describes her balance?

10. The length of a hypotenuse of a right triangle is $\sqrt{34}$. What subset or real numbers does this number belong too?

11. The length of a rectangle is 6 and the width of the rectangle is 3. What is the area of the rectangle? The number of square feet is a member of which subset(s) of real numbers?

12. **For each of the following find the Intersection ($C \cap D$) and the Union ($C \cup D$) of the two sets.**

    12. $C = \{4, 8, 12, 16, 20\}$

        $D = \{5, 10, 15, 20\}$

13. $C = \{6, 12, 18, 24\}$

    $D = \{7, 14, 21, 28\}$

14. **Determine whether each statement is true or false. Provide a counterexample for false statement.**

    14. The set of whole numbers is closed under multiplication.

15. The set of natural numbers is closed under division.

16. **Evaluate and solve each of the following problems.**

    16. Use braces and digits to designate the set of natural numbers.

17. The set $\{0,1,2,3,\ldots\}$ represents what set of numbers?

18. Represent the following numbers as being members of set K: $2,4,2,0,6,0,10,8$

19. Which of the following numbers is an irrational number: 15, $\sqrt{15}$, 15.15151515..., $-\frac{15}{3}$.

20. **Simplify/Evaluate each of the following Numerical or Variable Expressions.**

    20. $\frac{4}{7}+\frac{1}{8}+\frac{1}{2}$

21. $\frac{3}{5}+\frac{1}{8}+\frac{1}{8}$

22. **Evaluate and solve each of the following problem.**

    22. Write 0.666 as a fraction.

23. Name a fraction equivalent to $\frac{2}{5}$.

24. Find the prime fractorization of 144.

25. Write 7.2 as a percent. If necessary, round to the nearest tenth.