Number Systems Assignment

1. **Complete the following chart by placing a check mark in the appropriate box.**

Number	Natural	Whole	Integer	Rational	Irrational	Real
1	✓	✓	✓	✓		✓
0		✓	✓	✓		✓
32	✓	✓	✓	✓		✓
$\sqrt{25}$	✓	✓	✓	✓		✓
$\sqrt{12}$					✓	✓
9.38555…				✓		✓
$\frac{-19}{6}$				✓		✓
π					✓	✓
-7.6				✓		✓
$-\sqrt{49}$			✓	✓		✓
$\frac{-125}{25}$			✓	✓		✓
0.3564712……..					✓	✓

2. **Indicate whether the following are true or false.**

a) **5.4 is a Rational Number.** True

b) **One-third is a Natural Number.** False

c) **Terminating Decimals are Irrational Numbers.** False

d) -5 is a Rational Number, but not a Whole Number. True

e) The number 0.121314.... is a Rational Number. False

3. Circle the correct answer for each of the following.

a) A decimal in which the same sequence of digits repeats again and again is called a(n) Repeating Decimal or Irrational Number.

b) Every repeating decimal represents a(n) Irrational Number or a Rational Number.

c) An Irrational Number is a number that is represented by a Repeating Decimal or a NonRepeating Decimal.

d) A number that can be represented by a fraction is a(n) Rational Number or Irrational Number.

e) An integer is a(n) Irrational Number or Rational Number.

f) Between any two Rational Numbers there is a(n) Rational Number or Integer.

g) The union of the set of Rational Numbers and the set of Irrational Numbers is called the Set of Integers or the Set of Real Numbers.

h) Every repeating or nonrepeating decimal represents a Real Number or Rational Number.

i) A real number that is not a Rational Number is a(n) Repeating Decimal or Irrational Number.

j) A real number that can be represented by a nonrepeating decimal is a(n) Rational Number or Irrational Number.