Name:_____ Date:_____

Math 9 Section 3.1 What are Rational Numbers?

1. Given each of the following numbers below, indicate whether if it is a Rational or Irrational Number:

a) $\frac{5}{3}$	b) 0	c) $\frac{\sqrt{4}}{6}$	d) $\frac{-100}{101}$	e) π	f) $\frac{\sqrt{65}}{20}$
g) $4\sqrt{3}$	h) 21	i) $\frac{2}{3}+\frac{4}{3}$	j) 9^3	k) $0.\overline{35}$	L) $12.\bar{5}$
m) $\frac{2+\sqrt{3}}{4}$	n) $\frac{4+\sqrt{9}}{7}$	o) $1.\overline{111}$	p)1.1213141516…	q) 3.12112111211112…	r) $1.\overline{428571}$

2. For each of the following rational numbers, draw it on a number line:

a) $3\frac{2}{5}$	b) $4\frac{1}{6}$	c) $-2\frac{1}{4}$
d) $1\frac{7}{9}$	e) $11\frac{10}{30}$	f) $7\frac{8}{24}$

3. Indicate whether if each of the following statements is either TRUE or FALSE:

i) All rational numbers can be written as a fraction except when the denominator is a prime number:

ii) All rational numbers must be in a form where the decimal form terminates

iii) The square root of any number that is not a perfect square is irrational

iv) All whole numbers are rational numbers

vii) The product of two irrational numbers can be rational

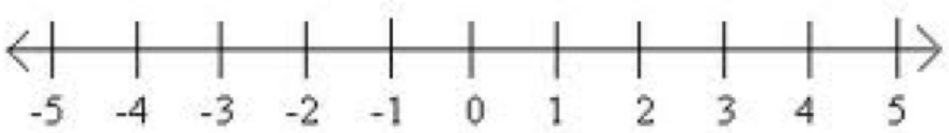
vi) The product of two irrational numbers will always be rational

vii) The sum of a rational number and an irrational number will be irrational

viii) An integer divided by another integer will always be rational

4. Place each of the following rational numbers on the number line:

a) $\frac{13}{4}$	b) $\frac{-16}{5}$	c) $\frac{\sqrt{9}}{2}$	d) 1.9090	e) $1.\overline{777}$	f) $-2.\overline{999}$	g) $3\frac{2}{5}$



5. Arrange each of the following rational numbers from LEAST to GREATEST:

a) $2.09,\ \frac{5}{2},\ 2.0909,\ 2\frac{1}{10},\ 2.00999$

b) $\frac{7}{2},\ \frac{9}{3},\ \frac{11}{4},\ \frac{13}{5},\ \frac{15}{6}$

c) $\frac{2}{3},\ \frac{3}{4},\ \frac{8}{9},\ \frac{33}{36},\ \frac{11}{12}$

d) $-\frac{7}{2},\ -3.\overline{999},\ -\frac{3}{7},\ \frac{8}{10},\ \frac{4}{5}$

e) $4.09,\ 4.\overline{09},\ 4.\overline{090},\ 4.099,\ 4.1$

6. Given the list of numbers below, indicate which of them are equal to each other:

$$\sqrt{9},\ \frac{3}{4},\ \sqrt{\frac{9}{16}},\ \frac{12}{4},\ \frac{75}{100},\ \frac{\sqrt{45}}{5},\ 3^{-1},\ \left(\frac{1}{3}\right)^{-1},\ \left(1\frac{1}{3}\right)^{-1}$$

7. The value of $0.\dot{1}+0.\overline{12}+0.\overline{123}$ is:

(A) $0.\overline{343}$ **(B)** $0.\overline{355}$ **(C)** $0.3\overline{5}$ **(D)** $0.\overline{355446}$ **(E)** $0.\overline{355445}$