

# Math 206 - Quiz 1

August 25, 2010

Name key

Score \_\_\_\_\_

Show all work to receive full credit. Supply explanations when necessary. DO NOT USE A CALCULATOR FOR ANY PART OF THIS QUIZ.

1. (1 point) Give the decimal form of a real number that is not rational. What is another name for this type of number?

7.605006000500006000005...

THE DECIMAL FORM  
NEITHER REPEATS  
NOR TERMINATES.  
IT IS IRRATIONAL

2. (1 point) Give an example of an integer that is not a whole number. Give an example of a rational number that is not an integer.

INTEGER THAT IS NOT WHOLE : -1

RATIONAL THAT IS NOT INTEGER :  $\frac{1}{5} = 0.2$

3. (1 point) Write in expanded form and then in standard decimal form:

$$\frac{501067}{100000} = 5 + \frac{1}{100} + \frac{6}{10000} + \frac{7}{100000}$$

$$= 5 \times 10^0 + 1 \times 10^{-2} + 6 \times 10^{-4} + 7 \times 10^{-5}$$

$$= 5.01067$$

4. (1 point) One fraction below has a terminating decimal form and one has a repeating decimal form. Without doing division, state which is which and explain how you know.

$$\frac{1111}{600} \quad \frac{189}{350}$$

$$\left| \frac{511}{600} = \left| \frac{(7)(73)}{(2^3)(3)(5^2)} \right.$$

$$\frac{27}{50} = \frac{3^3}{(2)(5^2)}$$

REPEATING DECIMAL -- LOWEST TERMS  
& DENOM HAS FACTOR OF 3

TERMINATING  
DECIMAL ---  
LOWEST TERMS  
AND DENOM HAS  
ONLY FACTORS OF  
2's & 5's.

5. (1 point) Write  $1.8\overline{56}$  as a fraction in lowest terms.

$$F = 1.8\overline{56}$$

$$1000F = 1856.\overline{56}$$

$$\underline{10F = 18.\overline{56}}$$

$$990F = 1838$$

$$F = \frac{1838}{990} = \frac{919}{495}$$