

MPM 1D0

NUMBER SYSTEMS

Define each of the following terms (found in the back of your textbook).

Natural Numbers : _____

Whole Numbers : _____

Integers : _____

Rational Numbers : _____

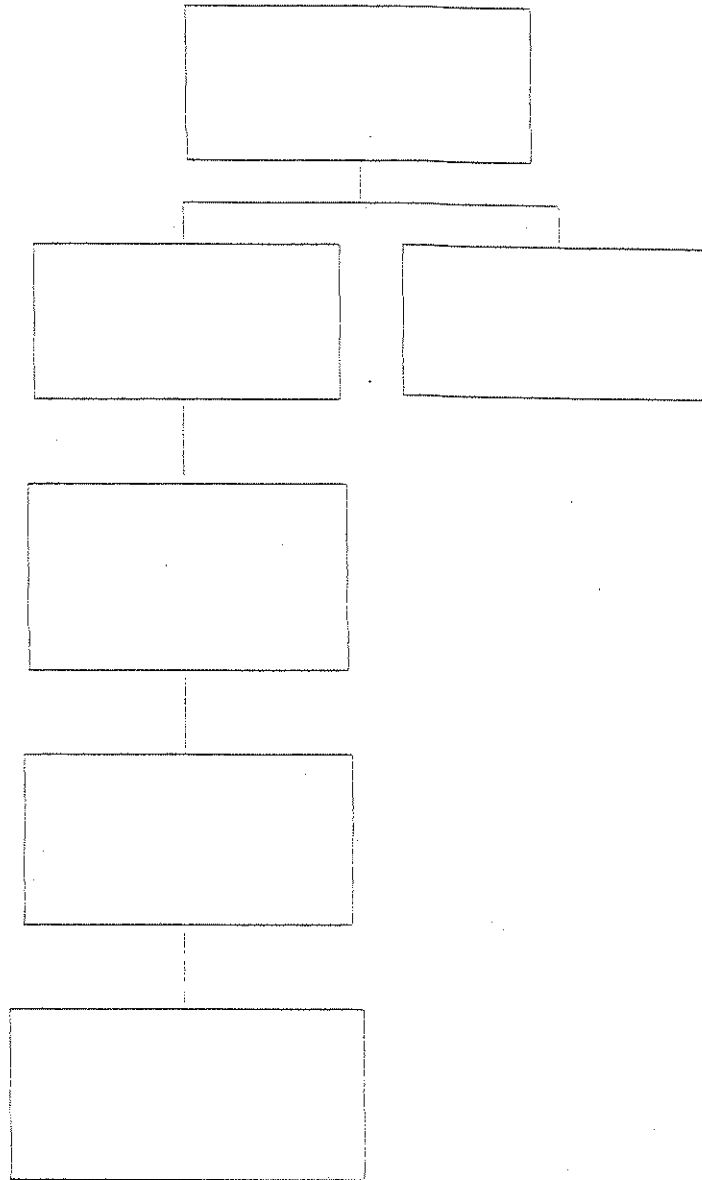
Irrational Numbers : _____

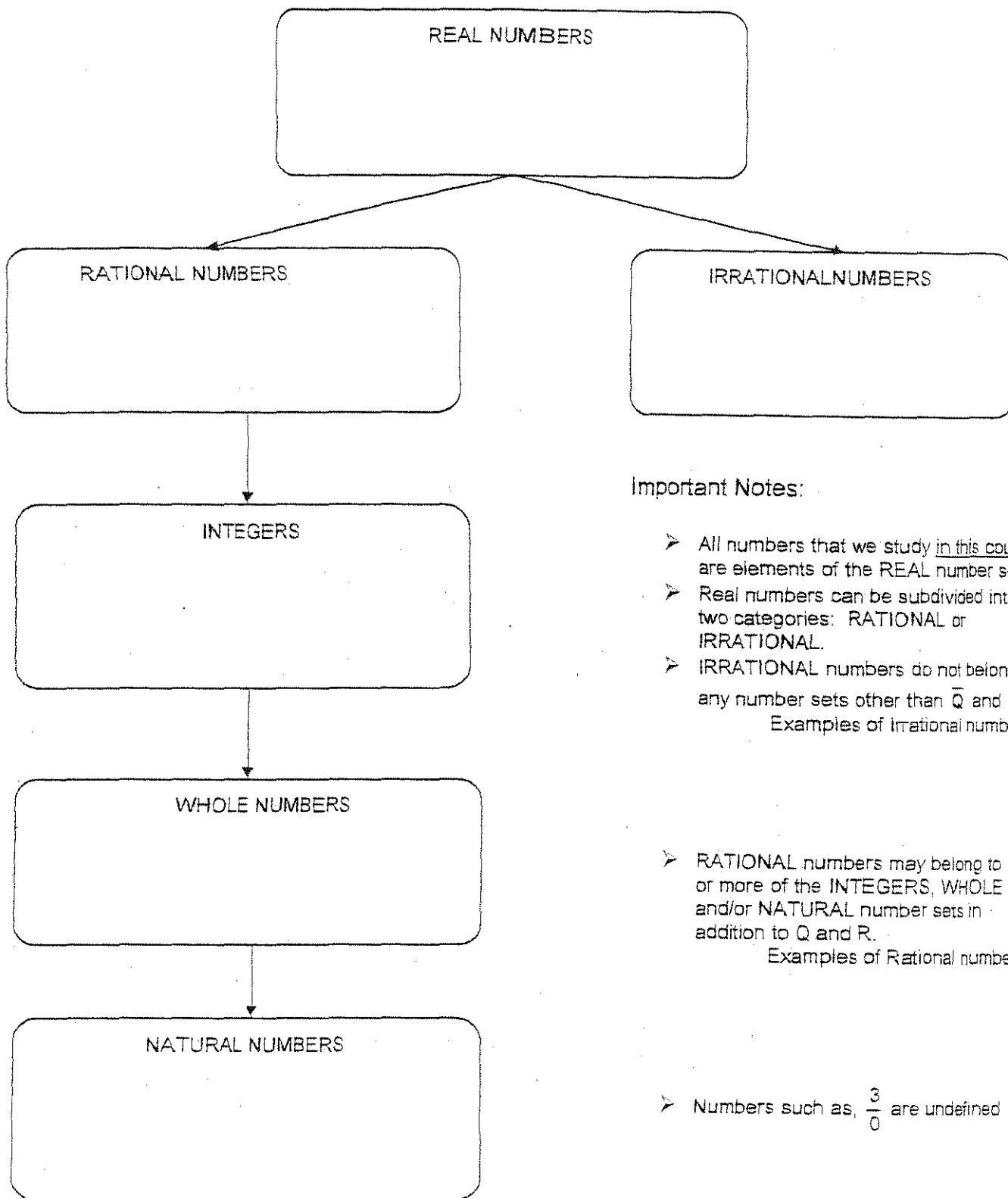
Real Numbers : _____

Prime Numbers : _____

Composite Numbers : _____

Complete the chart :





Important Notes:

- All numbers that we study in this course are elements of the REAL number set.
- Real numbers can be subdivided into two categories: RATIONAL or IRRATIONAL.
- IRRATIONAL numbers do not belong to any number sets other than \bar{Q} and R
Examples of Irrational numbers:

- RATIONAL numbers may belong to one or more of the INTEGERS, WHOLE and/or NATURAL number sets in addition to Q and R .
Examples of Rational numbers:

- Numbers such as, $\frac{3}{0}$ are undefined

Use the information given to complete the chart :

Set of Numbers	Short Form	Mathematical Description	English Description
NATURAL			
		$\{ \dots -3, -2, -1, 0, 1, 2, 3 \dots \}$	
	W		
IRRATIONAL			
	Q		
		$\{ Q \cup \bar{Q} \}$	

Complete the chart by placing a check mark, (✓), in the space to indicate that the number belongs to that set :

	N	W	I	Q	\bar{Q}	R
7	✓	✓	✓	✓	X	✓
$\sqrt{3}$						
$\frac{3}{4}$						
$\sqrt{144}$						
$3\frac{1}{2}$						
-6.5						
0						
0.313113111...						
$-\sqrt{8}$						
$5.\overline{365}$						
3.876						
7.654826343...						
$\frac{\sqrt{5}}{2}$						
-6						
3.2						
-0.33						

General Conclusions:

1. All positive perfect square roots such as _____ will belong to the following number sets:

2. All negative perfect square roots such as _____ will belong to the following number sets:

3. The square root of all non-perfect squares such as _____ will belong to the following number sets:

4. All repeating decimals such as _____ will belong to the following number sets:

5. All terminating ^{decimal} numbers such as _____ will belong to the following number sets:

6. All undefined numbers such as _____ will belong to:

7. Will any negative number belong to the set of integers? Explain.

MPM1D

Number Sets

Name: _____

	N	W	I	Q	\bar{Q}	R
-45.95						
-15						
$\frac{1}{5}$						
$\sqrt{15}$						
33.5595559...						
$\sqrt{81}$						
33						
$\frac{0}{7}$						
π						
9.4						
98.1275275...						

	N	W	I	Q	\bar{Q}	R
$\sqrt{25}$						
12						
-37.75						
-48						
0						
3.25						
π						
9.31141114...						
$\sqrt{7}$						
34.1256256...						
$\frac{2}{3}$						