QUESTIUON 1 Given the following numbers:

$$-1,\ 0,\ 0.\overline{3},\ 2.36366366636....,\ \pi,\ e,\ 57,\ 5,\ 9,\ -\frac{2}{7},\ 0.8574,\sqrt{4}$$

Complete the following:

a) INTEGERS: _____

b) RATIONAL NUMBERS:_____

c) IRRATIONAL NUMBERS:_____

d) PRIME NUMBERS:_____

e) COMPOSITE NUMBERS:_____

f) PERFECT SQUARE NUMBERS: _____

QUESTION 2. Which of the following is TRUE:

a) $\pi = \frac{22}{7}$

b) Composite numbers are closed under the operation of addition

c) Irrational numbers are closed under the operation of addition

d) if a-b = 4, then b-a = 4

e) Prime and composite numbers are both positive integers and greater than 1.

f) $-\pi$ is the reciprocal of $\frac{1}{\pi}$

g) $If\ -5 < x < -1\ \ then\ \left|x-\left|-4x\right|\right| = 3x$

QUESTION 3 If

$A = \left\{ y \middle| y = x - |x| \text{ , where } x \text{ is an integer and } -2 \le x < 3 \right\}$

, then list all elements of A.

QUESTION 4. SIMPLIFY $\dfrac{1-\frac{1}{2}}{1\frac{1}{2}-\frac{2}{3}}$

QUESTION 5 Write the expression

$$\frac{|x+2|}{x+2}, x<-2$$

Without the absolute value notation.

QUESTION 6 Find the exact value of $\sqrt{(-8)^2}+(-\frac{1}{32})^{-\frac{3}{5}}$

QUESTION 7 Simplify then combine like radicals $3x\sqrt[3]{8x^3y^4}-2y\sqrt[3]{27x^6y}$

QUESTION 8 Rationalize the denominator of $\dfrac{1}{\sqrt[3]{24}}-\dfrac{4}{\sqrt[3]{3}}-\dfrac{2}{\sqrt[3]{81}}$

QUESTION 9

$$A=\{x|x\le -1\}\cup\{x|x\ge 2\}$$
$$B=\{x|-1\le x\le 3\}\cap\{x|1<x<5\}$$

Find $A\cap B$, then graph A *and* B

QUESTION 10 Simplify the expression $\dfrac{2^{\frac{5}{2}}x^{\frac{5}{6}}y^{\frac{1}{5}}}{4x^{\frac{1}{3}}y^{\frac{7}{10}}}$