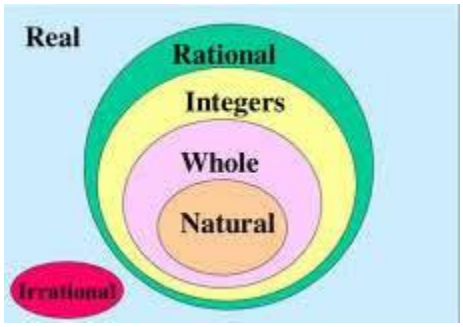
Aim: What is the relationship between rational and irrational numbers?

Do Now – Place the following numbers from the smallest to the largest

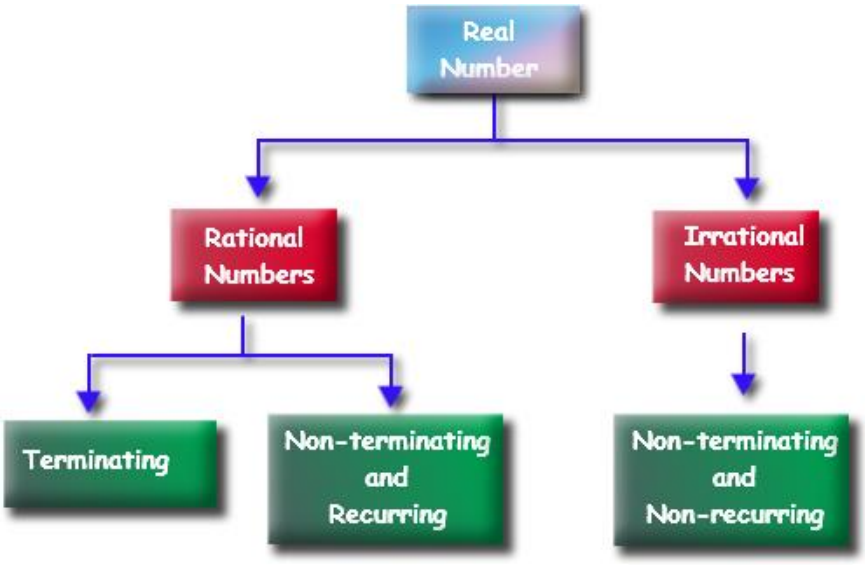
1) 61π	**7)** π
2) 42	**8)** $5.62\overline{13}$
3) $75.082\overline{106}$	**9)** $^{98}/_{16}$
4) $\sqrt{101}$	**10)** 39
5) $65.4\overline{279}$	**11)** 89.396668...
6) $^{20}/_{6}$	**12)** $\sqrt{17}$

I- Rational Numbers and Irrational Numbers

1)



2)



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3) Let's classify the Do Now Numbers into Rational and Irrational Numbers

II – Exercise

Classify these numbers as rational or irrational and give your reason.

1. a. 7329
   b. $\sqrt{4}$
2. a. 0.95832758941…
   b. 0.5287593593593

Give an example of a number that would satisfy these rules.

3. a number that is: real, rational, whole, an integer, and natural
4. a number that is: real and irrational
5. a number that is: real, rational, an integer

Classify each number as: real, rational, irrational, whole, natural, and integer. Give your reason.

6. a. 3/4
   b. -12/4
7. a. 0.345 345 345
   b. -0. 6473490424

8. Give examples of rational numbers that fit between the following sets of numbers.

a. -0.56 and -0.65

b. -5.76 and -5.77

c. 3.64 and 3.46

9. Which two numbers are irrational? How do you know?

a. $8-\sqrt{56}$

b. $8-\sqrt{25}$

c. $2-\sqrt{73}$

Aim: What is the relationship between rational and irrational numbers?

Homework # 3

Name_____
Date: _____

MES44QC-Homework 3
Mr. Pineda

1.

Which polynomial function has zeros at –3, 0, and 4?

(1) $f(x) = (x + 3)(x^2 + 4)$
(2) $f(x) = (x^2 - 3)(x - 4)$
(3) $f(x) = x(x + 3)(x - 4)$
(4) $f(x) = x(x - 3)(x + 4)$

2.

If $A = 3x^2 + 5x - 6$ and $B = -2x^2 - 6x + 7$, then $A - B$ equals

(1) $-5x^2 - 11x + 13$
(2) $5x^2 + 11x - 13$
(3) $-5x^2 - x + 1$
(4) $5x^2 - x + 1$

3.

The expression $x^4 - 16$ is equivalent to

(1) $(x^2 + 8)(x^2 - 8)$
(2) $(x^2 - 8)(x^2 - 8)$
(3) $(x^2 + 4)(x^2 - 4)$
(4) $(x^2 - 4)(x^2 - 4)$

4.

Given: $L = \sqrt{2}$

$M = 3\sqrt{3}$

$N = \sqrt{16}$

$P = \sqrt{9}$

Which expression results in a rational number?

(1) $L + M$
(2) $M + N$
(3) $N + P$
(4) $P + L$

5.

Which statement is *not* always true?

(1) The sum of two rational numbers is rational.
(2) The product of two irrational numbers is rational.
(3) The sum of a rational number and an irrational number is irrational.
(4) The product of a nonzero rational number and an irrational number is irrational.

6.

Dan took 12.5 seconds to run the 100-meter dash. He calculated the time to be approximately

(1) 0.2083 minute
(2) 750 minutes
(3) 0.2083 hour
(4) 0.52083 hour

Aim: What is the relationship between rational and irrational numbers?

7.

Which statement is *not* always true?

(1) The product of two irrational numbers is irrational.
(2) The product of two rational numbers is rational.
(3) The sum of two rational numbers is rational.
(4) The sum of a rational number and an irrational number is irrational.

8.

For which value of P and W is $P + W$ a rational number?

(1) $P = \frac{1}{\sqrt{3}}$ and $W = \frac{1}{\sqrt{6}}$

(2) $P = \frac{1}{\sqrt{4}}$ and $W = \frac{1}{\sqrt{9}}$

(3) $P = \frac{1}{\sqrt{6}}$ and $W = \frac{1}{\sqrt{10}}$

(4) $P = \frac{1}{\sqrt{25}}$ and $W = \frac{1}{\sqrt{2}}$

9.

Patricia is trying to compare the average rainfall of New York to that of Arizona. A comparison between these two states for the months of July through September would be best measured in

(1) feet per hour
(2) inches per hour
(3) inches per month
(4) feet per month

Answers to HW # 3

Please select the correct answer number for each question. There are more answers than questions. Answers may be repeated.

1) (1)

2) (2)

3) (3)

4) (4)