



King Fahd University of Petroleum and Minerals
Prep-Year Math Program
Math001 - Semester 091
Recitation (R1, R2)

Question1:

Given the following numbers:

$$-1, 0, 1, 5, 91, 2.12122123\dots, \frac{22}{7}, 41, 2.2\bar{3}, \pi, \frac{\sqrt{2}}{3}, \frac{18}{3}, 3.142$$

Complete the following:

Integers: _____

Rational Numbers: _____

Irrational Numbers: _____

Question2:

Let

$U = \{0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15\}$ be the universe set and

$$A = \{z \mid z = |x| - x, \text{ where } x \text{ is an integer with } -6 < x \leq 0\}$$

$$B = \{z \mid z = 2x - 2, \text{ where } x \text{ is an integer number with } 2 \leq x < 7\}.$$

$$C = \{x \mid x \text{ is a prime counting number less than } 15\}$$

- List all elements of A , B and C
- Find U' and \emptyset'
- Find $(A \cap B) \cup C'$
- Find $A' \cap C$

Question3:

If $x = 3 \cdot 4^2 + |-7| - 3^4 \div 9$, $y = 35 - 20 \div 5 \times 2 - 6 \times 3$ and $z = 6 - 4 \div 2 + 45$,

then find the value of the expression: $x - 2[y \div (z - x)]$

Question4: TRUE or FALSE

- Any integer number is either positive or negative.
- The operation of division of real numbers is commutative.
- If $-5 < x < -1$, then $|x - |-3x|| = -4x$.
- If x is any real number, then $|-x| = x$.