SET

(1) Q. Write the following set in set builder method

$X = \{1, 3, 5, 7, \ldots 29\}$

$X = \{x \mid x \in N$ and x is odd natural number and $x \leq 29\}$

(2) $X = \{2, 3, 5, 7, 11, 13, 17, 19, 23, 29\}$

$X = \{x \mid x \in N$ and x is prime number less than $30\}$.

(3) $X = \{1, 4, 9, 16, 25 \ldots\}$

$X = \{x \mid x = n^2, n \in N\}$

(4) Write the following set in roster form

(i) $X = \{x \mid x \in N, \frac{5}{2} \leq x < 10\}$

$X = \{5, 6, 7, 8, 9\}$

(ii) $\{x \mid x = n^2 - 1, n \in N$ and $n < 5\}$

$X = \{0, 3, 8, 15,\}$

(5) {x | x is a consonant in word NOTATION}

{N, T, O}

(Repetition is not allowed)

(6) {x | x is a digit in the numerals 1105771}

{1, 0, 5, 7} = Tabular form.

(7) classify the following sets into empty, finite, infinite set.

(i) {all colours of a rainbow} =

= finite set / cardinal number = 7

(ii) {x | x is prime number between 7 and 11}

{ } = empty set.

(iv) {multiples of 5} = infinite set.

(8) If $A = \{x \mid x = 2n, n < 5\}$

Then find A when (i) $\S = N$

(ii) $\S = W$

(iii) $\S = I$

(i) $A = \{2, 4, 6, 8\}$

(ii) $A = \{0, 2, 4, 6, 8\}$

(iii) ~~$A = \{\ldots -2, 0, 2, 4, 6, 8\}$~~

$A = \{\ldots\ldots -4, -3, 0, 2, 4, 6, 8\}$