

## 1.2 Special Sets

$\mathbb{N}$  : the set of all positive integers (or natural #s)=

$\mathbb{Z}$  : the set of all integers (+, 0, -) =

$\mathbb{R}$  : the set of real numbers.

$\mathbb{Q}$  : the set of rational numbers=

A real number that is not rational  $\implies$  irrational:  $\mathbb{Q}^c$  or  $I$ .  
e.g.,

Ex1.4 Write in the form  $\{x \in \mathbb{Z} : p(x)\}$

(a)  $A = \{-1, -2, -3, \dots\}$

(b)  $B = \{-3, -2, \dots, 3\}$

Ex1.6 Write in the form  $\{\text{formula: } x \in \mathbb{Z}\}$

(a)  $A = \{\dots, -4, -1, 2, 5, 8, \dots\}$

(b)  $B = \{\dots, -10, -5, 0, 5, 10, \dots\}$

(1.2 cont.)

$\mathbb{C}$  : the set of complex numbers =  $\{a + bi : a, b \in \mathbb{R}, i = \sqrt{-1}\}$   
e.g.,