

Sets Ex 1.2 Q2(iv)

In set Builder form, a set is described by some characterizing property P(x) of its elements x.

In this case a set can be described as $\{x: P(x) \text{ hold}\}\$ or $\{x|P(x) \text{ holds}\}\$ which is read as 'the set of all x such that P(x) holds'.

The symbols ':' or 'I' is read as 'such that'.

$$D = \left\{ x \in N: \ 9 < x < 16 \right\},$$

i.e D is the set of natural numbers which are more than 9 but less than 16.

Sets Ex 1.2 Q2(v)

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The symbols ':' or 'I' is read as 'such that'.

$$E = \left\{ X \in Z : \neg 1 < X < 1 \right\}$$
 or
$$E = \left\{ X \in Z : X = 0 \right\}$$

Sets Ex 1.2 Q2(vi)

In set Builder form, a set is described by some characterizing property P(x) of its elements x.

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The symbols ':' or 'I' is read as 'such that'.

As
$$1^2 = 1$$

 $2^2 = 4$
 $3^2 = 9$
:
:
 $10^2 = 100$

i. The above set may be described as

$$\left\{ x^2 : x \in N \& 1 \le x \le 10 \right\}$$

Sets Ex 1.2 Q2(vii)

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The given set can be described as $\{x: x = 2n, n \in N\}$ (\cdot 2, 4,6,... are multiples of 2)

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