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Cool! I'am really happy

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My friends are so mad that they do not know how I have all the high quality ebook which they do not!

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so many fake sites. this is the first one which worked! Many thanks

Exercise 2.1

Question 1:

If $\left(\frac{x}{3} + 1, y - \frac{2}{3}\right) = \left(\frac{5}{3}, \frac{1}{3}\right)$, find the values of x and y .

Answer

$$\left(\frac{x}{3} + 1, y - \frac{2}{3}\right) = \left(\frac{5}{3}, \frac{1}{3}\right)$$

It is given that $\left(\frac{x}{3} + 1, y - \frac{2}{3}\right) = \left(\frac{5}{3}, \frac{1}{3}\right)$.

Since the ordered pairs are equal, the corresponding elements will also be equal.

$$\text{Therefore, } \frac{x}{3} + 1 = \frac{5}{3} \text{ and } y - \frac{2}{3} = \frac{1}{3}$$

$$\frac{x}{3} + 1 = \frac{5}{3}$$

$$\Rightarrow \frac{x}{3} = \frac{5}{3} - 1 \Rightarrow \frac{x}{3} = \frac{2}{3}$$

$$\Rightarrow \frac{x}{3} = \frac{2}{3} \Rightarrow x = \frac{2}{3} \times 3$$

$$\Rightarrow x = 2 \Rightarrow y = 1$$

$$\therefore x = 2 \text{ and } y = 1$$

Question 2:

If the set A has 3 elements and the set $B = \{3, 4, 5\}$, then find the number of elements in $(A \times B)$.

Answer

It is given that set A has 3 elements and the elements of set B are 3, 4, and 5.

Number of elements in set $B = 3$

Number of elements in $(A \times B)$

$$= (\text{Number of elements in } A) \times (\text{Number of elements in } B)$$

$$= 3 \times 3 = 9$$

Thus, the number of elements in $(A \times B)$ is 9.

Question 3:

If $G = \{7, 8\}$ and $H = \{5, 4, 2\}$, find $G \times H$ and $H \times G$.

Answer

$G = \{7, 8\}$ and $H = \{5, 4, 2\}$

We know that the Cartesian product $P \times Q$ of two non-empty sets P and Q is defined as

$$P \times Q = \{(p, q) : p \in P, q \in Q\}$$

$$\therefore G \times H = \{(7, 5), (7, 4), (7, 2), (8, 5), (8, 4), (8, 2)\}$$

$$H \times G = \{(5, 7), (5, 8), (4, 7), (4, 8), (2, 7), (2, 8)\}$$

Question 4:

State whether each of the following statement are true or false. If the statement is false, rewrite the given statement correctly.

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