

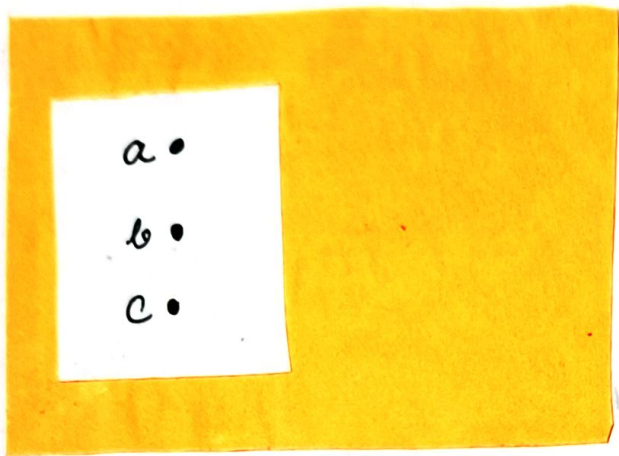


Fig. 6.1

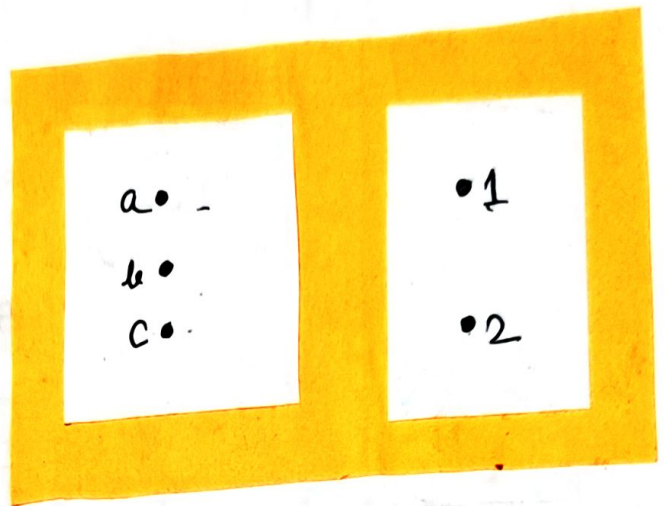


Fig. 6.2

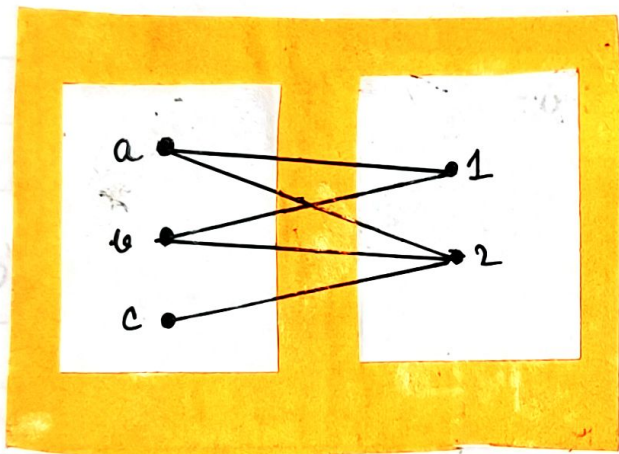


Fig. 6.3

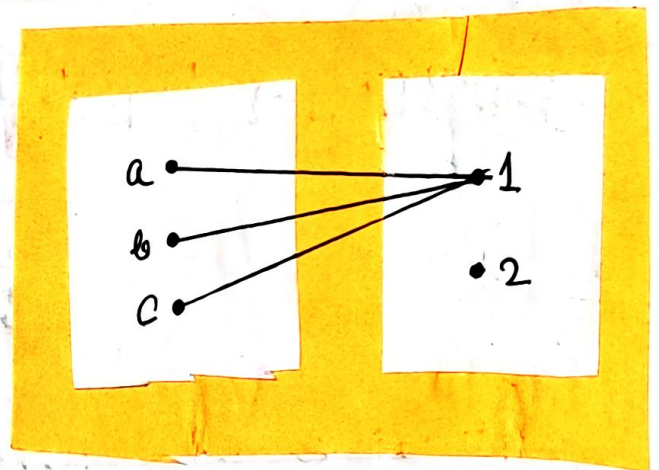


Fig. 6.4

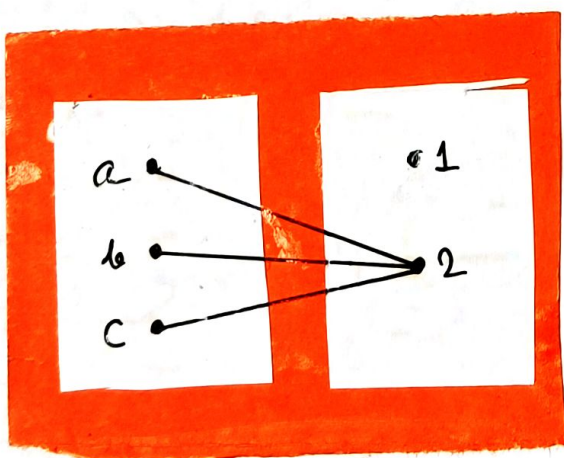


Fig. 6.5

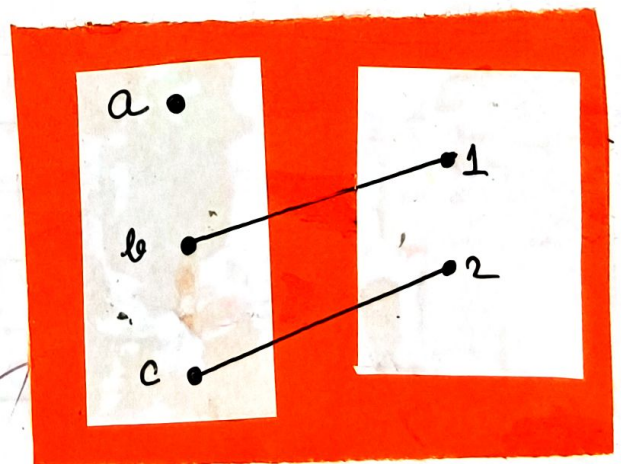


Fig. 6.6

ACTIVITY-4

OBJECTIVE :- To distinguish between a Relation and a Function.

MATERIAL REQUIRED :-

- | | |
|----------------------------|----------------|
| 1) Drawing Board | 4) Adhesive |
| 2) Coloured Drawing Sheets | 5) Strings |
| 3) Scissors | 6) Nails, etc. |

METHOD OF CONSTRUCTION :-

- 1) Take a drawing board / a piece of plywood of convenient size and paste a coloured sheet on it.
- 2) Take a white drawing sheet and cut out a rectangular strip of size 6 cm x 4 cm and paste it on the left side of the drawing board (Fig. 6.1)
- 3) Fix three nails on this strip and mark them as a, b, c (Fig. 6.1)

4) Cut out another white rectangular strip size 6 cm x 4 cm and paste it on the right hand side of the drawing board.

5) Fix two nails on the right side of this strip (Fig. 6.2) and mark them as 1 and 2.

OBSERVATION

1) In Fig. 6.3, ordered pairs are $(a,1), (a,2), (b,1), (b,2), (c,2)$

This ordered pairs constitute a relation but not a function.

2) In Fig. 6.4, ordered pairs are $(a,1), (a,1), (c,1)$. These constitute a relation as well as function.

3) In Fig. 6.5, ordered pairs are $(a,2), (b,2), (c,2)$

These ordered pairs constitute a relation as well as function.

4) In Fig. 6.6, ordered pairs are $(a,1), (c,2)$.

These ordered pairs do not represent function but represent relation.

complete it.

Demonstration :-

1) Join nails of the left hand strip to the nails on the right hand strip by strings in different ways. Some of such ways are shown in Fig. 6.3 to 6.6.

2) Joining nails in each figure constitute different ordered pairs representing elements of a relation.

APPLICATION:-

Such Activity can also be used to demonstrate different types of functions such as constant function, identity function, injective and surjective functions by joining nails on the left hand strip to that of right hand strip in suitable manner.

Teacher's Signature

Sal
16/08/24