

## EXERCISE 7.1

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1. Complete the following statements:

(a) Two line segments are congruent if \_\_\_\_\_.

**Solution:-**

Two line segments are congruent if **they have the same length.**

(b) Among two congruent angles, one has a measure of  $70^\circ$ ; the measure of the other angle is \_\_\_\_\_.

**Solution:-**

Among two congruent angles, one has a measure of  $70^\circ$ ; the measure of the other angle is  $70^\circ$ .

If two angles have the same measure, they are congruent. Also, if two angles are congruent, their measure is the same.

(c) When we write  $\angle A = \angle B$ , we actually mean \_\_\_\_\_.

**Solution:-**

When we write  $\angle A = \angle B$ , we actually mean  $m \angle A = m \angle B$ .

2. Give any two real-life examples of congruent shapes.

**Solution:-**

The two real-life examples of congruent shapes are as follows:

- (i) Fan feathers of the same brand
- (ii) Size of chocolate in the same brand
- (iii) Size of pens in the same brand

3. If  $\triangle ABC \cong \triangle FED$  under the correspondence  $ABC \leftrightarrow FED$ , write all the corresponding congruent parts of the triangles.

**Solution:-**

Two triangles are congruent if pairs of corresponding sides and corresponding angles are equal.

All the corresponding congruent parts of the triangles are,

$\angle A \leftrightarrow \angle F$ ,  $\angle B \leftrightarrow \angle E$ ,  $\angle C \leftrightarrow \angle D$

Correspondence between sides:

$\overline{AB} \leftrightarrow \overline{FE}$

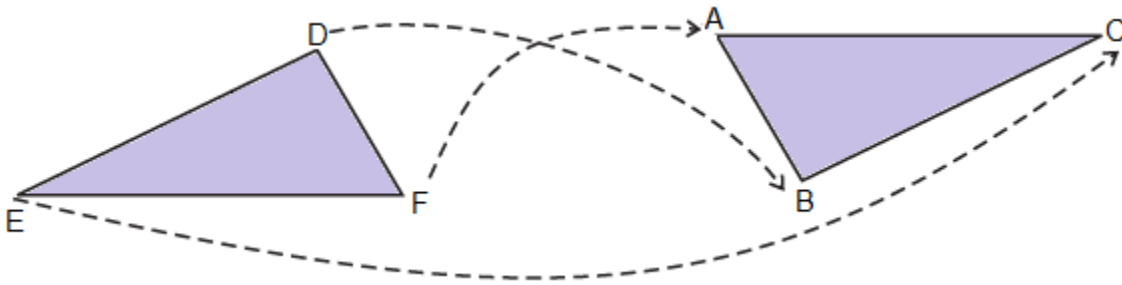
$\overline{BC} \leftrightarrow \overline{ED}$

$\overline{CA} \leftrightarrow \overline{DF}$

4. If  $\triangle DEF \cong \triangle BCA$ , write the part(s) of  $\triangle BCA$  that correspond to

(i)  $\angle E$  (ii)  $\overline{EF}$  (iii)  $\angle F$  (iv)  $\overline{DF}$

**Solution:-**



From the above figure, we can say that,

The part(s) of  $\triangle BCA$  that correspond to,

(i)  $\angle E \leftrightarrow \angle C$

(ii)  $\overline{EF} \leftrightarrow \overline{CA}$

(iii)  $\angle F \leftrightarrow \angle A$

(iv)  $\overline{DF} \leftrightarrow \overline{BA}$

