Congruence of Triangles: Exercise 7.1

Q.1 Complete the following statements:

(a) Two line segments are congruent if _____

(b) Among two congruent angles, one has a measure of 70°; the measure of

the other angle is _____

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

Sol:

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

(b) Among two congruent angles, one has a measure of 70°; the measure of the other angle is 70°.

(c) When we write $\angle A = \angle B$, we actually mean $\underline{m} \angle A = \underline{m} \angle B$.

Q.2 Give any two real-life examples for congruent shapes.

Sol: Two real-life examples for congruent shapes:

- (i) Size of biscuits in the same brand.
- (ii) Shaving blades of the same company.

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

Sol: Since, if two triangles are congruent then pairs of corresponding sides and corresponding angles are equal.

All the corresponding congruent parts of the triangles: Corresponding Angles: $\angle A \leftrightarrow \angle F$, $\angle B \leftrightarrow \angle E$ and $\angle C \leftrightarrow \angle D$

Corresponding Sides: $\overline{AB} \leftrightarrow \overline{FE}$, $\overline{BC} \leftrightarrow \overline{ED}$ and $\overline{CA} \leftrightarrow \overline{DF}$

Q.4 If $\Delta DEF \cong \Delta BCA$, write the part(s) of ΔBCA that correspond to (i) $\angle E$ (ii) EF (iii) $\angle F$ (iv) DFSol: Since, $\Delta DEF \cong \Delta BCA$ (i) $\angle E \leftrightarrow \angle C$ (ii) $\overline{EF} \leftrightarrow \overline{CA}$ (iii) $\angle F \leftrightarrow \angle A$ (iv) $\overline{DF} \leftrightarrow \overline{BA}$