CLASS TEST

Date : 25/08/25

SUB : MATHEMATICS | F.M. - 17

CLASS : IX

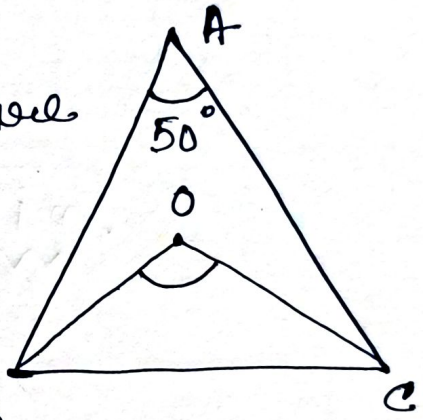
Topic : Euclid's Geometry, Triangles.

[I] Choose the correct option : 1X8 = 8

(a) In a $\triangle ABC$, if $\angle A - \angle B = 42^\circ$ and $\angle B - \angle C = 21^\circ$, then $\angle B = ?$

(i) 32° (ii) 63° (iii) 53° (iv) 95°

(b) In the given figure, BO and CO are the bisectors of $\angle B$ and $\angle C$ respectively. If $\angle A = 50^\circ$, then $\angle BOC = ?$



(i) 130° (ii) 100° (iii) 115° (iv) 120°

(c) It is given that $\triangle ABC \cong \triangle FDE$, AB = 5cm, $\angle B = 40^\circ$ and $\angle A = 80^\circ$, Then which of the following is true?

(i) DF = 5 cm, $\angle F = 60^\circ$ (ii) DF = 5 cm, $\angle E = 60^\circ$

(iii) DE = 5cm, $\angle E = 60^\circ$ (iv) DE = 5cm, $\angle D = 40^\circ$

(d) In $\triangle PQR$, PQ = PR and $\angle P = 80^\circ$, then $\angle R$ is —

(i) 80° (ii) 40° (iii) 50° (iv) 100°

(e) In Indus Valley Civilization, the bricks used for construction work were having dimensions in the ratio of —

(i) 5:3:2 (ii) 4:2:1 (iii) 4:3:2 (iv) 6:4:2

(f) A is of the same age as B and C is of same age as B. Euclid's which axiom illustrates the relative ages of A and C?

(i) first (ii) second (iii) third (iv) fourth

(g) The base of a pyramid is —

(i) a triangle (ii) a square (iii) a rectangle (iv) any polygon

[2] Assertion/Reason : [1×2=2]

(a) Assertion (A): Given two distinct points, there is a unique line that passes through them.

Reason (R): If A, B and C are three points on a line and B lies between A and C, then, AB + BC = AC.

(i) A✓R✓E✓ (ii) A✓R✓EX (iii) A✓RX (iv) AXR✓

(b) Assertion (A): In $\triangle ABC$ and $\triangle PQR$, AB = PQ; AC = PR and $\angle BAC = \angle QPR$, then $\triangle ABC \cong \triangle PQR$

Reason (R): Both the triangles are congruent by S-S-S criteria of congruency.

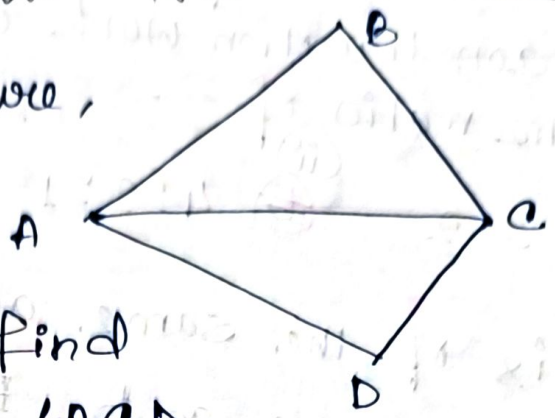
(i) A✓R✓E✓ (ii) A✓R✓EX (iii) A✓RX (iv) AXR✓

[3] Very short Answer type questions: [2×2 = 4]

(a) In the adjoining figure,

$\triangle ABC \cong \triangle ADC$.

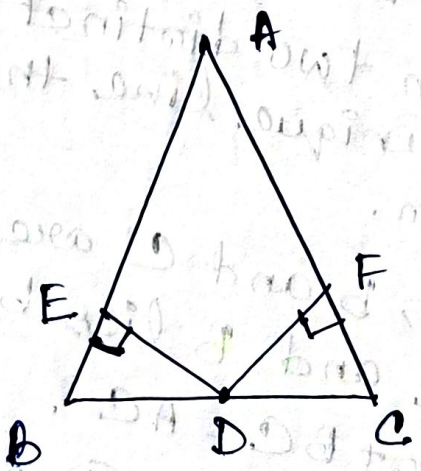
If $\angle BAC = 30^\circ$ and $\angle ABC = 100^\circ$, then find the measurement of $\angle ACD$.



(b) Use Euclid's axiom to find the value of y from the following equation —

$$2y + 12 = 20.$$

[4] Short Answer type question:



In the above figure, D is midpoint of BC. DE and DF are perpendiculars on AB and AC respectively. Also, DE = DF.

Prove that, (i) $\triangle BED \cong \triangle CFD$

(ii) $\triangle ABC$ is an isosceles triangle.

$\left[1\frac{1}{2} + 1\frac{1}{2} = 3\right]$