RK VISION ACADEMY

NEET | IIT – JEE | FOUNDATION

CBSE PRACTICE PAPER(2024)

(Mathematics)

Grade : X **Marks: 40**

marks

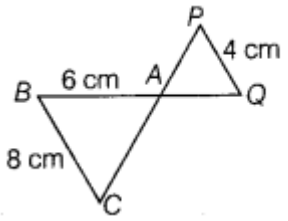
Chapter: TRIANGLES SET-2 **Time: 90**

minutes

SECTION A

(This section comprises of Multiple-choice questions (MCQ) of 1 mark each.)

1. In the given figure, if ΔACB ~ ΔAPQ, BA = 6 cm, BC = 8 cm and PQ = 4 cm, then the length of AQ is



(a) 3 cm (b) 5 cm (c) 4 cm (d) 6 cm

2. In the given figure, DE || BC and ADDB=35. If AC = 4.8 cm, then the length of AE is

(a) 1.5 cm (b) 1.8 cm (c) 2 cm (d) 4.2 cm

3. The perimeter of two similar triangles ΔABC and ΔPQR are respectively, 48 cm and 36 cm. If PQ =12 cm, then the value of AB is

(a) 20 cm (b) 16 cm (c) 40 cm (d) 25 cm

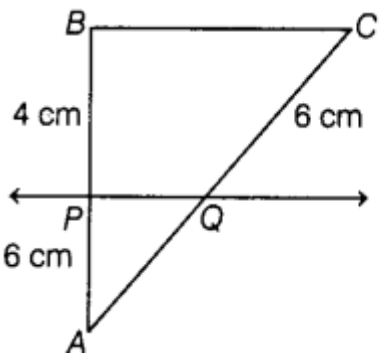
4. If in two triangles ΔDEF and ΔPQR, ∠D = ∠Q and ∠R = ∠E, then which of the following is not true?

(a) EF/PR=DF/PQ (b) DE/QR=EF/QP (c) DE/QR=DF/PQ (d) EF/RP=DE/QR

5. If ΔABC and ΔDEF are similar triangles, such that ∠A = 47°, ∠E = 83°, then the value of ∠C is [1]

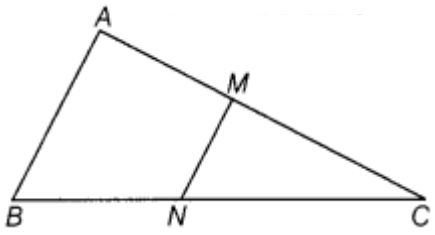
(a) 0° (b) 90° (c) 50° (d) 45°

6. In the given figure, PQ || BC, then the value of AQ is



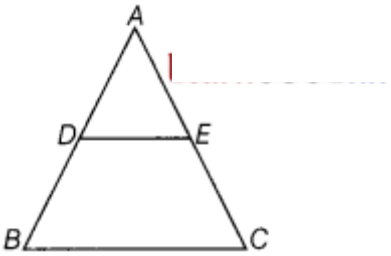
(a) 3.5 cm (b) 4.5 cm (c) 9 cm (d) 9.5 cm

7. In the given figure, MN || AB, BC = 7.5 cm, AM = 4 cm and MC = 2 cm. Then, the length of BN is



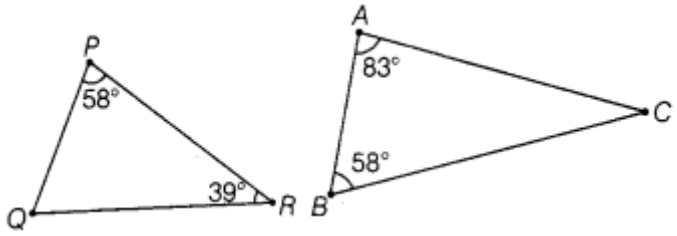
(a) 4 cm (b) 2 cm (c) $2\sqrt{2}$ cm (d) 5 cm

8. In the given figure, DE || BC. If AD = 5 cm, BD = 8 cm and AE = 10 cm, then the value of EC is



(a) 8 cm (b) 16 cm (c) 4 cm (d) 5 cm

9. Check the relation between the following triangles



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(a) similar by SAS (b) similar by AAA (c) similar by SSS (d) similar by ASS

10. Assertion (A) : ABCD is a trapezium with DC || AB. E and F are points on AD and BC respectively such that EF || AB. Then, AEED=BFFC.
Reason (R) : Any line parallel to parallel sides of a trapezium divides the non-parallel sides proportionally.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A)

(c) Assertion (A) is true but Reason (R) is false.

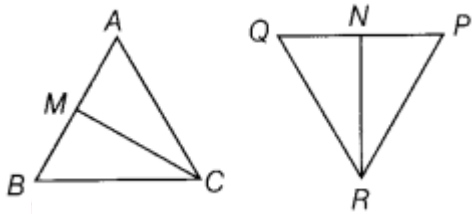
(d) Assertion (A) is false but Reason (R) is true.

SECTION B

(This section comprises of very short answer type-questions (VSA) of 2 marks each)

11 In ΔABC and ΔDEF, ∠B = ∠E, ∠F = ∠C and AB = 3DE. Then, show that the two triangles are similar but not congruent.

12 In the following figures, CM and RN are respectively the medians of ΔABC and ΔPQR.



If ΔABC ~ ΔPQR, then prove that ΔAMC ~ ΔPNR.

13 ABCD is a trapezium with AB || DC. If ΔAED is similSSSar to ΔBEC, then prove that AD = BC.

SECTION C

(This section comprises of short answer type questions (SA) of 3 marks each)

14 If Δ ABC ~ Δ DEF, AB = 4 cm, DE = 6 cm, EF = 9 cm and FD = 12 cm, find the perimeter of Δ ABC.

15 ABCD is a trapezium in which AB DC and P and Q are points on AD and BC, respectively such that PQ DC. If PD = 18 cm, BQ = 35 cm and QC = 15 cm, find AD.

16 A 15 metres high tower casts a shadow 24 metres long at a certain time and at the same time, a telephone pole casts a shadow 16 metres long. Find the height of the telephone pole.

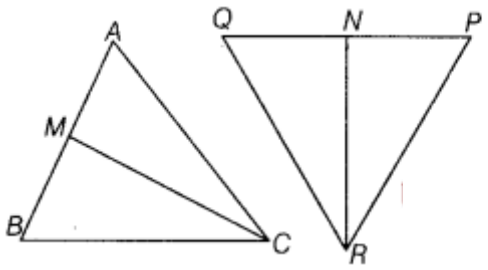
SECTION D

(This section comprises of long answer-type questions (LA) of 5 marks each)

17 ABCD is a trapezium with AB || DC. E and F are two points on non-parallel sides AD and BC respectively, such that EF is parallel to AB. Show that AE/ED=BF/FC

18 BL and CM are medians of ΔABC right angled at A. Prove that
$4(BL^2 + CM^2) = 5BC^2$.

19 In the given figure, CM and RN are respectively the medians of ΔABC and ΔPQR. If ΔABC ~ ΔPQR, then prove that



(a) ΔAMC ~ ΔPNR

(b) CMRN = ABPQ

(c) ΔCMB ~ ΔRNQ