

FAROOQ SATTAR OOMERBHOY HIGH SCHOOL FOR BOYS

I UNIT TEST- 2022

Class: X
Sub: Maths-II (Geom)

Date: 08/8/2022
Marks: 20

Q-I (A) Select the correct alternative answer and write it.

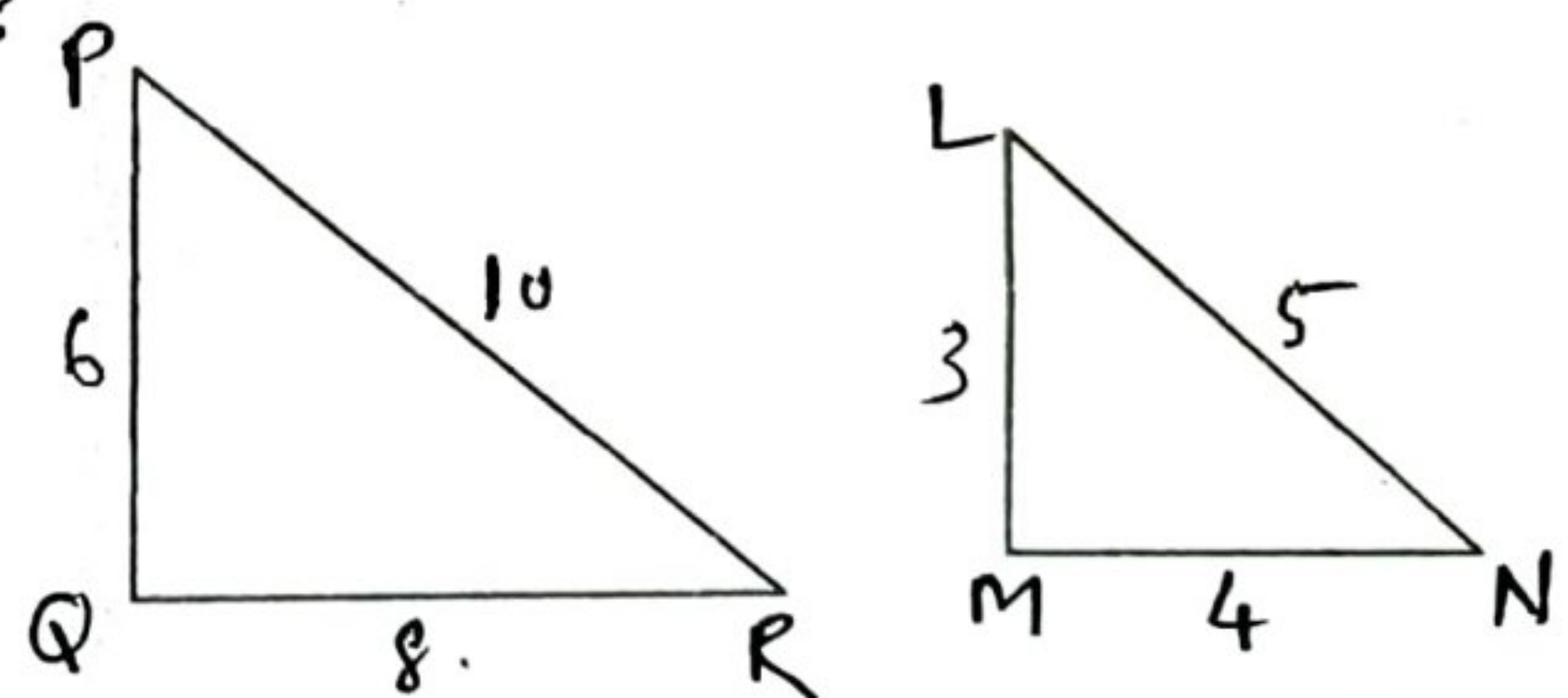
03

- $\triangle ABC$ and $\triangle DEF$ are equilateral triangles, $A(\triangle ABC) : A(\triangle DEF) = 1 : 2$
If $AB = 4$ then what is the length of DE ?
(A) $2\sqrt{2}$ (B) 4 (C) 8 (D) $4\sqrt{2}$
- Out of the following which is the Pythagorean triplet?
(A) (1, 5, 10) (B) (3, 4, 5) (C) (2, 2, 2) (D) (5, 5, 2)
- Find the perimeter of a square if its diagonal is $10\sqrt{2}$ cm.
(A) 10 cm (B) $40\sqrt{2}$ cm (C) 20 cm (D) 40 cm

(B) Solve the following:

03

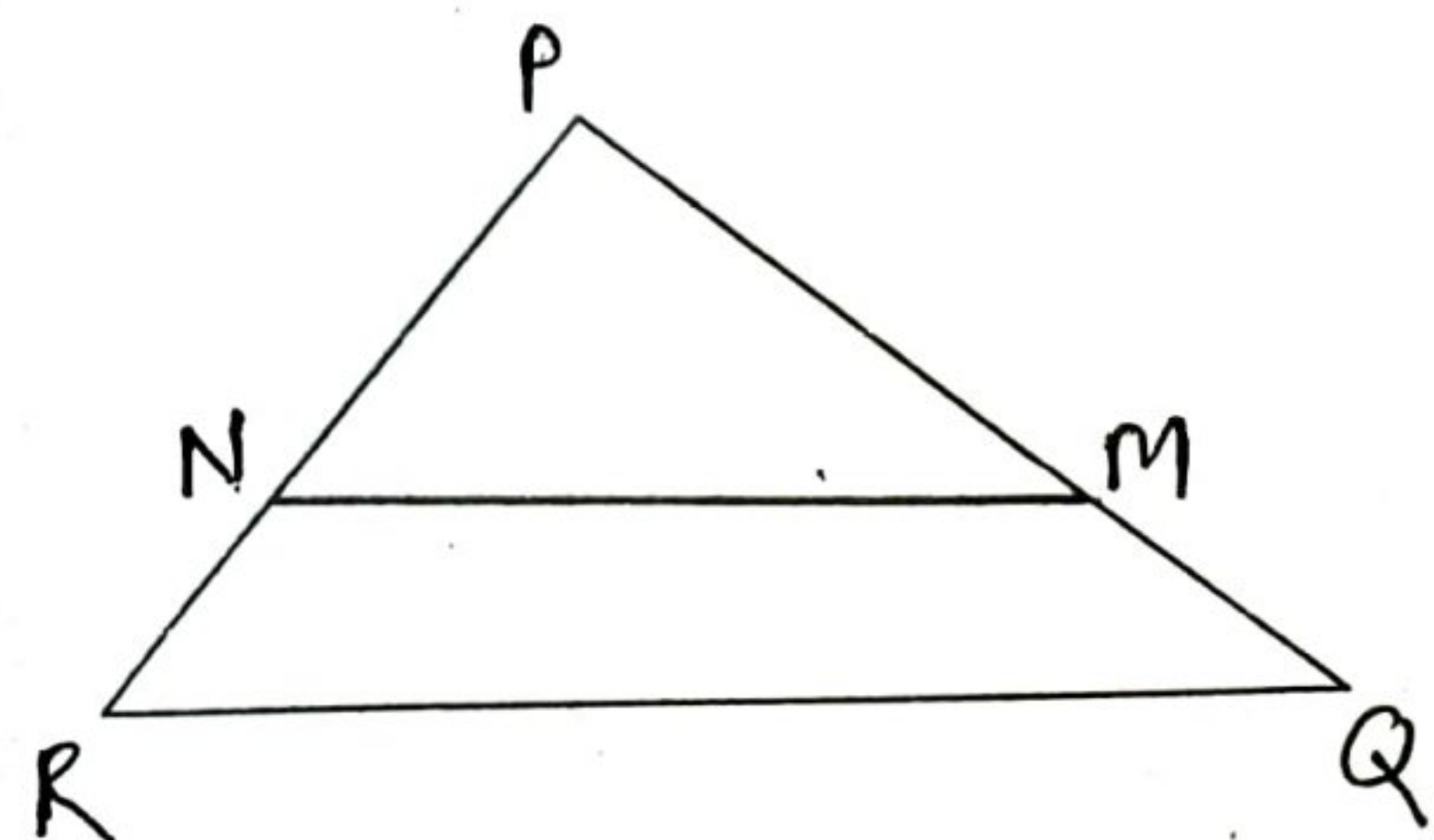
- The ratio of corresponding sides of similar triangles is 3 : 5 then find the ratio of their areas.
- In a right angled triangle, if sum of the squares of the sides making right angle is 169 then what is the length of the hypotenuse?
- Are the triangles in figure similar?
If yes, by which test?



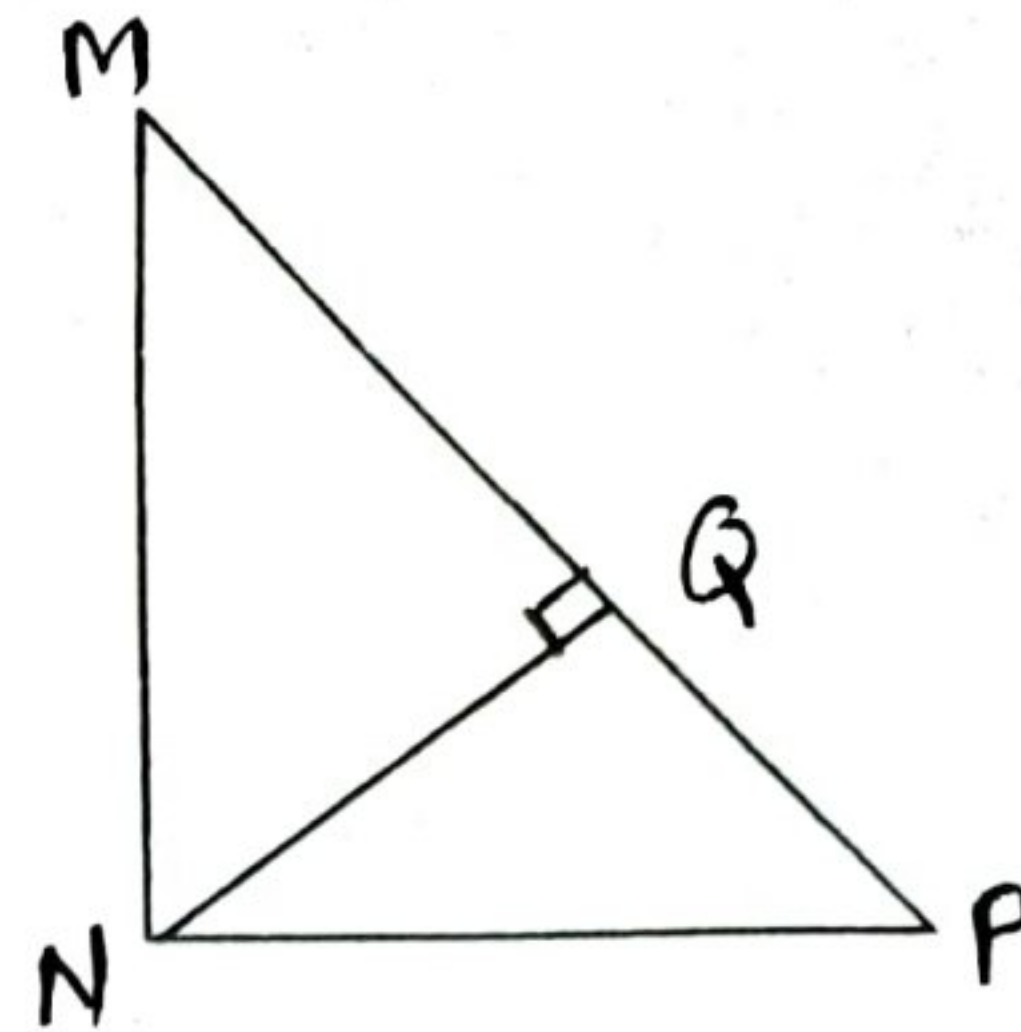
04

Q-II Solve the following: (Any 2)

- Find the diagonal of a rectangle whose length is 35 cm and breadth is 12 cm.
- In $\triangle PQR$, $PM = 15$, $PQ = 25$
 $PR = 20$, $NR = 8$.
State whether line NM is parallel to side RQ . Give reason.



- 3) In figure, $\angle MNP = 90^\circ$,
 seg $NQ \perp$ seg MP ,
 $MN = 9$, $NP = 4$, find NQ .

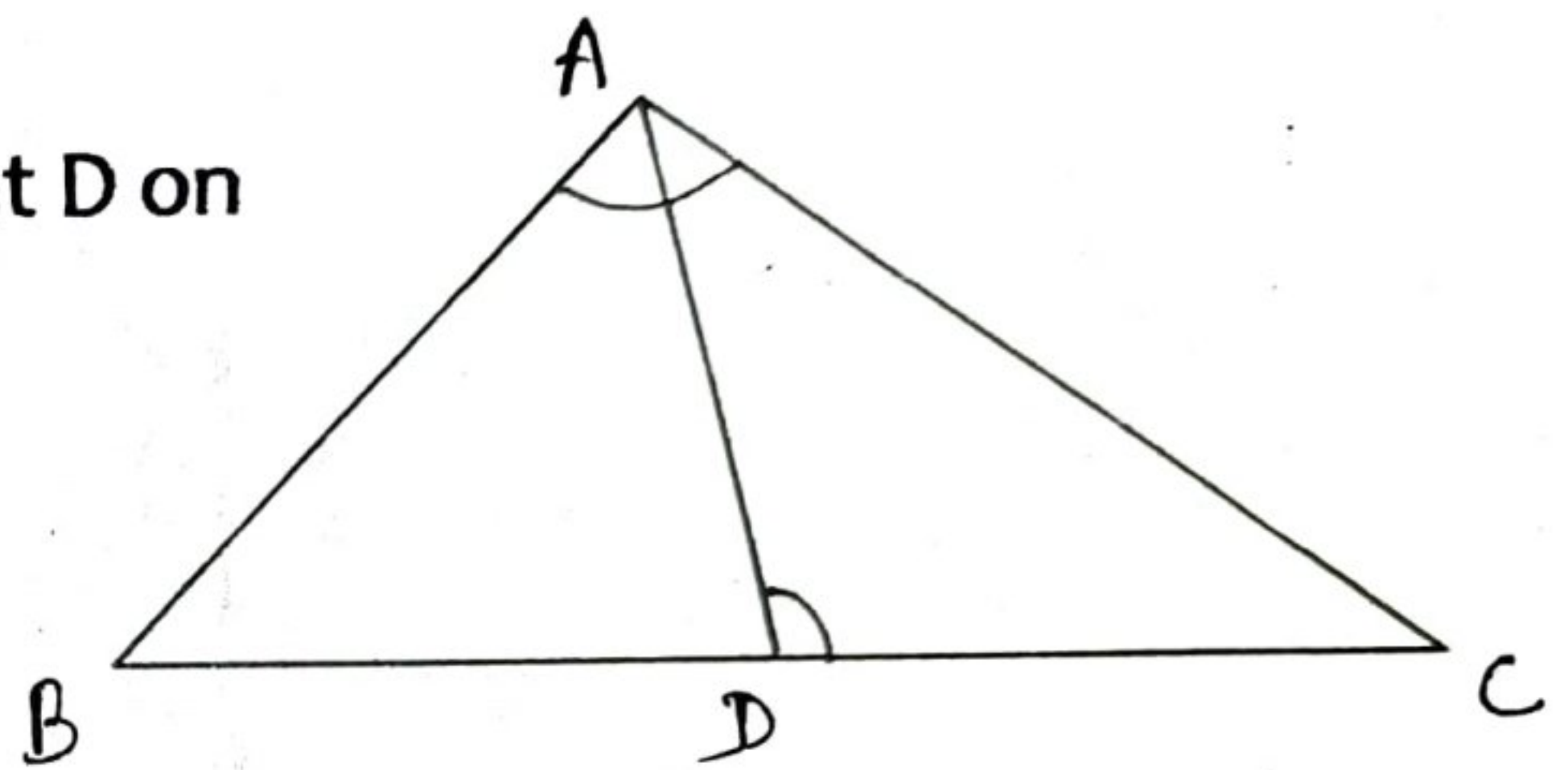


Q-III Solve the following: (Any 2)

06

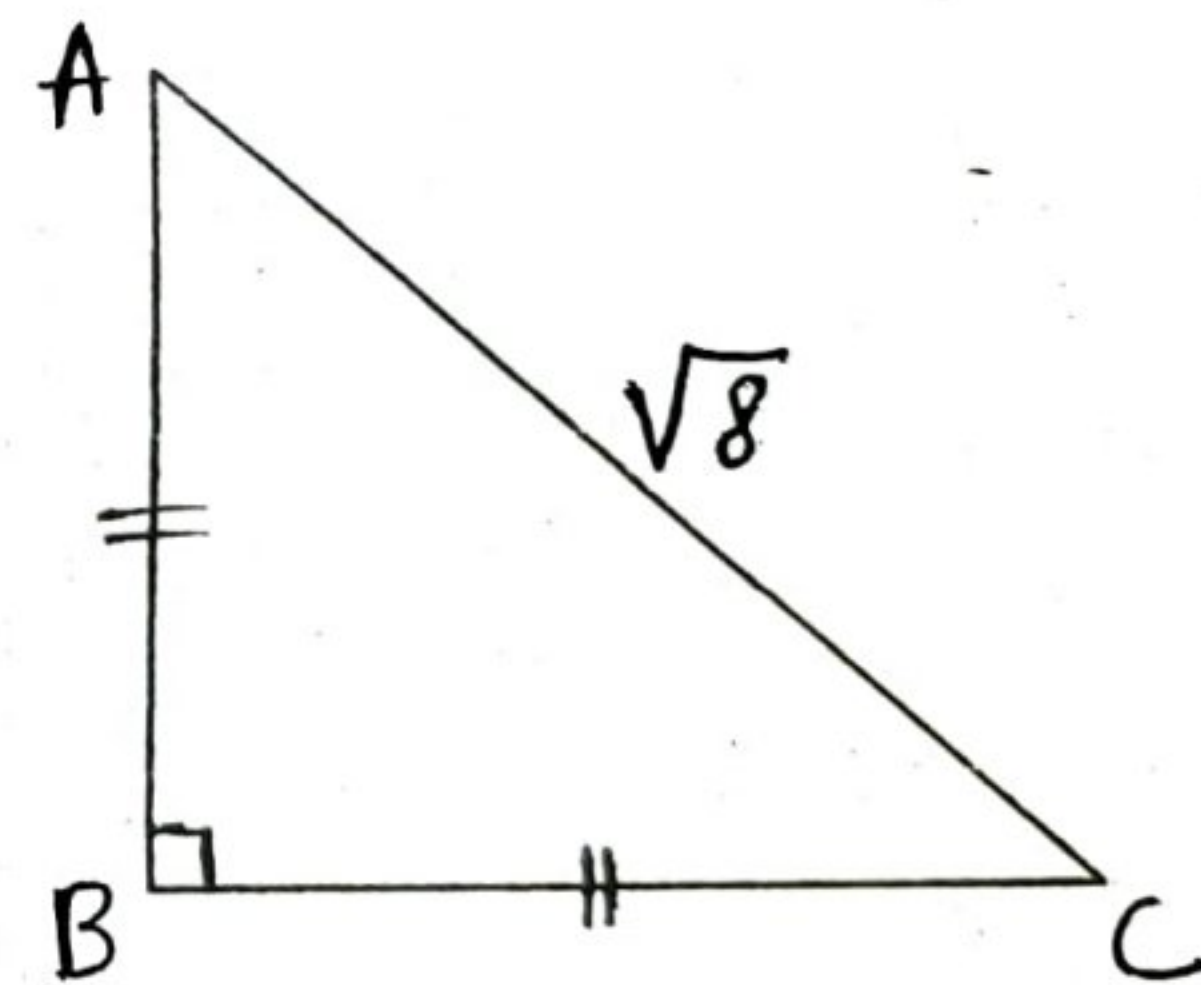
- 1) Theorem: Prove that if a line parallel to a side of a triangle intersects the remaining sides in two distinct points, then the line divides the sides in the same proportion.

- 2) In the figure, in $\triangle ABC$, point D on side BC is such that,
 $\angle BAC = \angle ADC$.
 Prove that, $CA^2 = CB \times CD$



- 3) For finding AB and BC with the help of information given in figure complete following activity.

$$\begin{aligned}
 AB &= BC \dots\dots \underline{\hspace{2cm}} \\
 \angle BAC &= \underline{\hspace{2cm}} \\
 AB &= BC = \underline{\hspace{2cm}} \times AC \\
 &= \underline{\hspace{2cm}} \times \sqrt{8} \\
 &= \underline{\hspace{2cm}} \times 2\sqrt{2} \\
 &= \underline{\hspace{2cm}}
 \end{aligned}$$



Q-IV Solve the following: (Any 1)

04

- 1) In $\triangle ABC$, seg AP is a median. If $BC = 18$, $AB^2 + AC^2 = 260$
 Find AP .

- 2) In fig, $XY \parallel$ seg AC .
 If $2AX = 3BX$ and $XY = 9$.
 Find the value of AC .

