



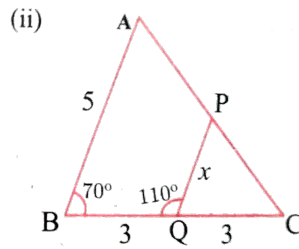
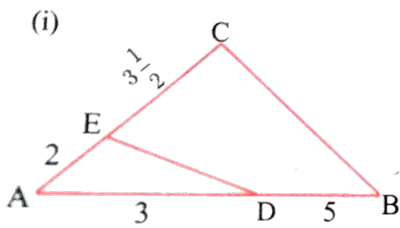
# MATHS

## BOOKS - SURA MATHS (TAMIL ENGLISH)

### GEOMETRY

#### Exercise 4 1

1. Check whether the which triangles are similar and find the value of  $x$ .



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2. A girl looks the reflection of the top of the lamp post on the mirror which is 6.6 m away from the foot of the lamppost. The girl whose height is 1.25 m is standing 2.5 m away from the mirror. Assuming the mirror is placed on the ground facing the sky and the girl, mirror and the lamppost are in a same line, find the height of the lamp post ?

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3. A vertical stick of length 6 m casts a shadow 400 cm long on the ground and at the same time a tower casts a shadow 28 m long. Using similarity, find the height of the tower.



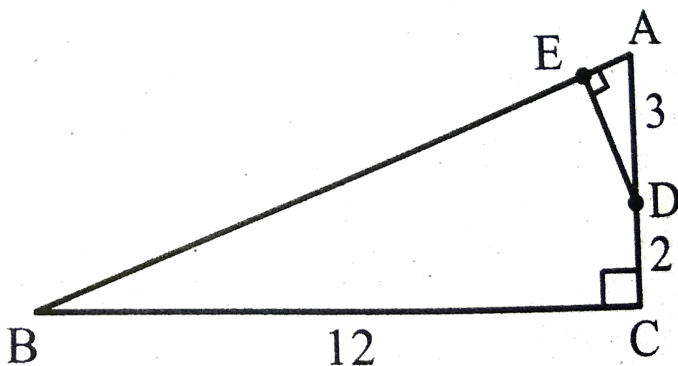
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4. Two triangles QPR and QSR, right angled at P and S respectively are drawn on the same base QR and on the same side of QR. If PR and SQ intersect at T, prove that  $PT \times TR = ST \times TQ$ .



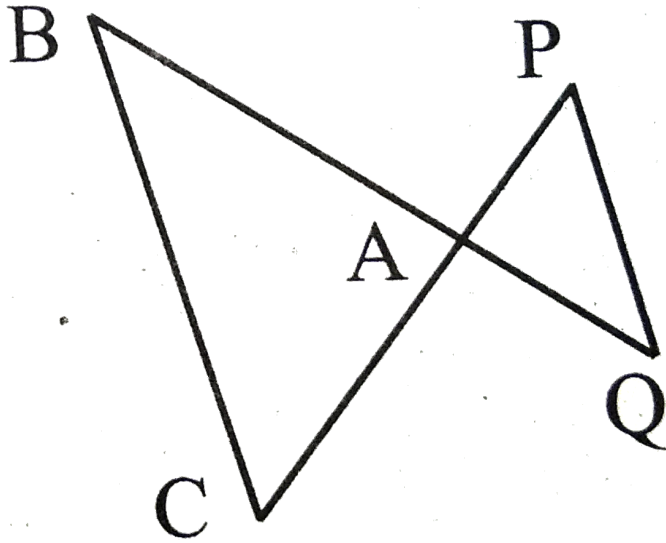
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5. In the adjacent figure,  $\triangle ABC$  is right angled at  $C$  and  $DE \perp AB$ . Prove that  $\triangle ABC \sim \triangle ADE$  and hence find the lengths of  $AE$  and  $DE$  ?



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6. In the adjacent figure,  $\triangle ACB \sim \triangle APQ$ . If  $BC=8$  cm,  $PQ=4$  cm,  $BA=6.5$  cm and  $AP=2.8$  cm, find  $CA$  and  $AQ$ .



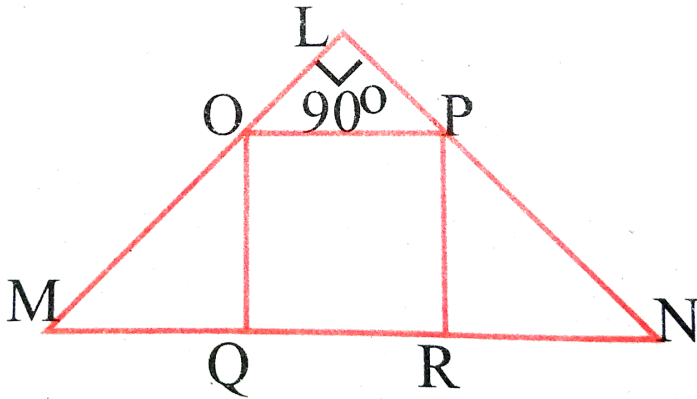
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7. In figure  $OPRQ$  is a square and  $\angle MLN = 90^\circ$ .

Prove that

(i)  $\Delta LOP \sim \Delta QMO$  (ii)  $\Delta LOP \sim \Delta RPN$

(iii)  $\Delta QMO \sim \Delta RPN$  (iv)  $QR^2 = MQ \times RN$ .



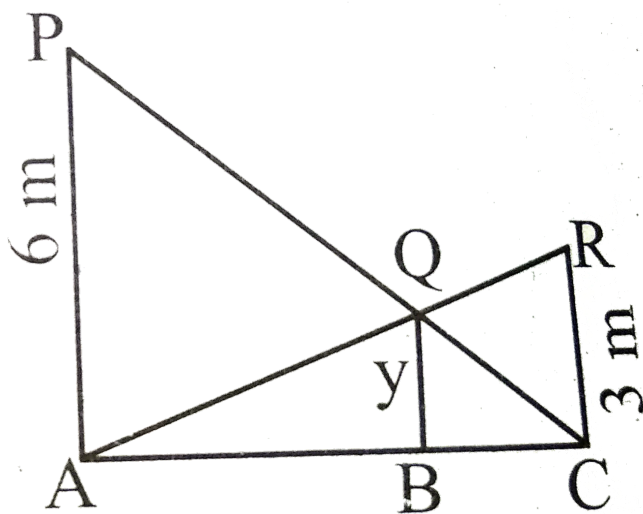
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8. If  $\Delta ABC \sim \Delta DEF$  such that area of  $\Delta ABC$  is  $9\text{cm}^2$  and the area of  $\Delta DEF$  is  $16\text{cm}^2$  and  $BC=2.1$  cm. Find the length of  $EF$ .



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9. Two vertical poles of heights 6 m and 3 m are erected above a horizontal ground AC. Find the value of  $y$ .



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10. Construct a triangle similar to a given triangle PQR with its sides equal to  $\frac{2}{3}$  of the corresponding sides of the triangle PQR (scale factor  $\frac{2}{3}$ ).



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11. Construct a triangle similar to a given triangle LMN with its sides equal to  $\frac{4}{5}$  of the corresponding sides of the triangle LMN (scale factor  $\frac{4}{5}$ ).



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12. Construct a triangle similar to a given triangle ABC with its sides equal to  $\frac{6}{5}$  of the corresponding sides of the triangle ABC (scale factor  $\frac{6}{4}$ ).

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13. Construct a triangle similar to a given triangle PQR with its sides equal to  $\frac{7}{3}$  of the corresponding sides of the triangle PQR (scale factor  $\frac{7}{3}$ )).

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1. In  $\triangle ABC$ , D and E are points on the sides AB and AC respectively such that  $DE \parallel BC$

(i) If  $\frac{AD}{DB} = \frac{3}{4}$  and AC=15 cm find AE.

(ii) If AD=8x-7, DB=5x-3, AE= 4x-3 and EC=3x - 1, find the value of x.



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



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3. In  $\triangle ABC$ , D and E are points on the sides AB and AC respectively. For each of the following cases show that  $DE \parallel BC$

(i)  $AB=12$  cm ,  $AD=8$  cm,  $AE=12$  cm and  $AC=18$  cm.

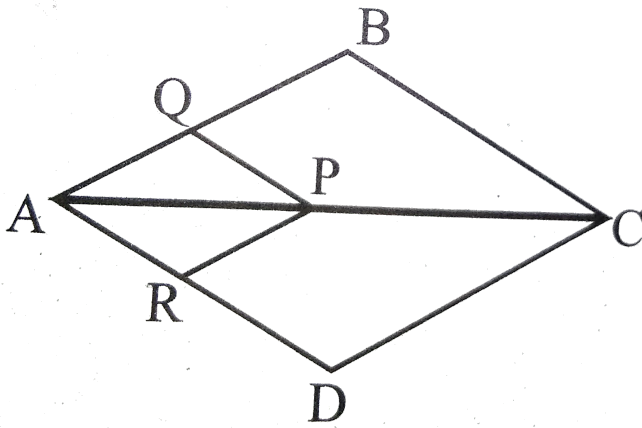
(ii)  $AB=5.6$  cm,  $AD=1.4$  cm,  $AC=7.2$  cm and  $AE=1.8$  cm.



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4. In fig. if  $PQ \parallel BC$  and  $PR \parallel CD$  prove that

$$(i) \frac{AR}{AD} = \frac{AQ}{AB} \quad (ii) \frac{QB}{AQ} = \frac{DR}{AR}.$$



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5. Rhombus PQRS is inscribed in  $\triangle ABC$  such that  $\angle B$  is one of its angle. P, Q and R lie on AB, AC and BC respectively. If  $AB=12$  cm and  $BC=6$  cm, find the sides PQ, RB of the rhombus.

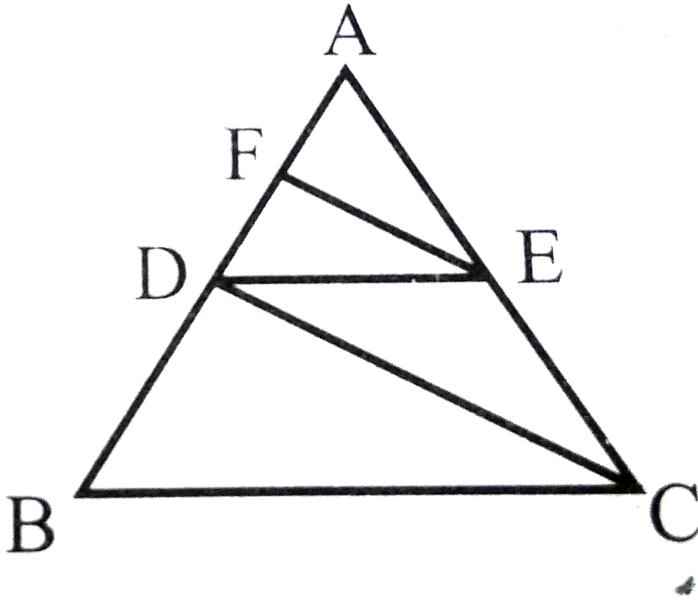
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6. In trapezium ABCD,  $AB \parallel DC$ , E and F are points on non-parallel sides AD and BC respectively, such that  $EF \parallel AB$ . Show that  $\frac{AE}{ED} = \frac{BF}{FC}$ .



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7. In figure  $DE \parallel BC$  and  $CD \parallel EF$ . Prove that  $AD^2 = AB \times AF$ .



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8. In a  $\triangle ABC$ , AD is the bisector of  $\angle A$  meeting side BC at D, if  $AB=10$  cm,  $AC =14$  cm and  $BC=6$  cm, find BD and DC.

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9. Check whether AD is bisector of  $\angle A$  of  $\triangle ABC$

in each of the following

(i)  $AB=5$  cm,  $AC=10$  cm,  $BD=1.5$  cm and  $CD=3.5$  cm.

(ii)  $AB=4$  cm,  $AC=6$  cm,  $BD=1.6$  cm and  $CD=2.4$  cm.



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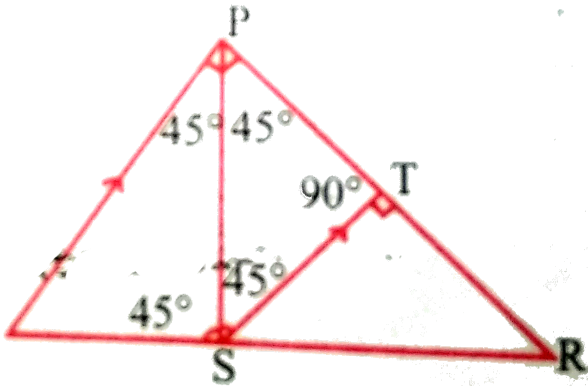
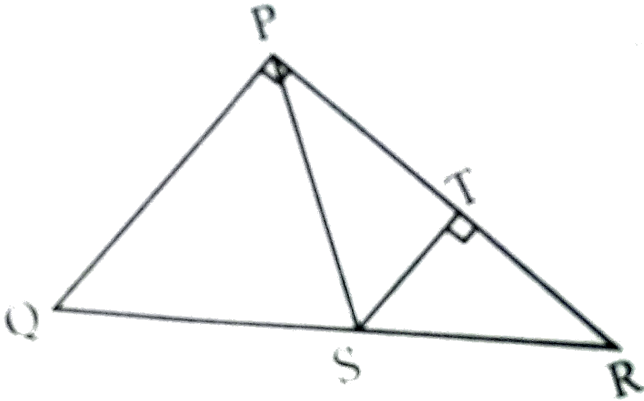
10. In figure  $\angle QPC = 90^\circ$ , PS is its bisector. If

$ST \perp PR$ ,

prove

that

$$ST \times (PQ + PR) = PQ \times PR.$$



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11.  $ABCD$  is a quadrilateral in which  $AB = AD$ , the bisector of  $\angle BAC$  and  $\angle CAD$  intersect the sides



BC and CD at the points E and F respectively. Prove that  $EF \parallel BD$ .



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12. Construct a  $\triangle PQR$  which the base  $PQ = 4.5\text{cm}$ ,  $\angle R = 35^\circ$  and the median from R to RG is 6 cm.



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13. Construct a  $\triangle PQR$  in which  $QR = 5\text{ cm}$ ,  $P = 40^\circ$  and the median PG from P to QR is 4.4 cm. Find the

length of the altitude from P to QR.



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14. Construct a  $\Delta PQR$  such that  $QR=6.5$  cm,  $\angle P = 60^\circ$  and the altitude from P to QR is of length 4.5 cm.



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15. Construct a  $\Delta ABC$  such that  $AB = 5.5\text{cm}$ ,  $\angle C = 25^\circ$  and the altitude from C to AB is 4 cm.



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16. Draw a triangle  $ABC$  of base  $BC=5.6$  cm,  $\angle A = 40^\circ$  and the bisector of  $\angle A$  meets  $BC$  at  $D$  such that  $CD=4$  cm.

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17. Draw  $\triangle PQR$  such that  $PQ=6.8$  cm, vertical angle is  $50^\circ$  and the bisector of the vertical angle meets the base at  $D$  where  $PD=5.2$  cm.

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## Exercise 4 3

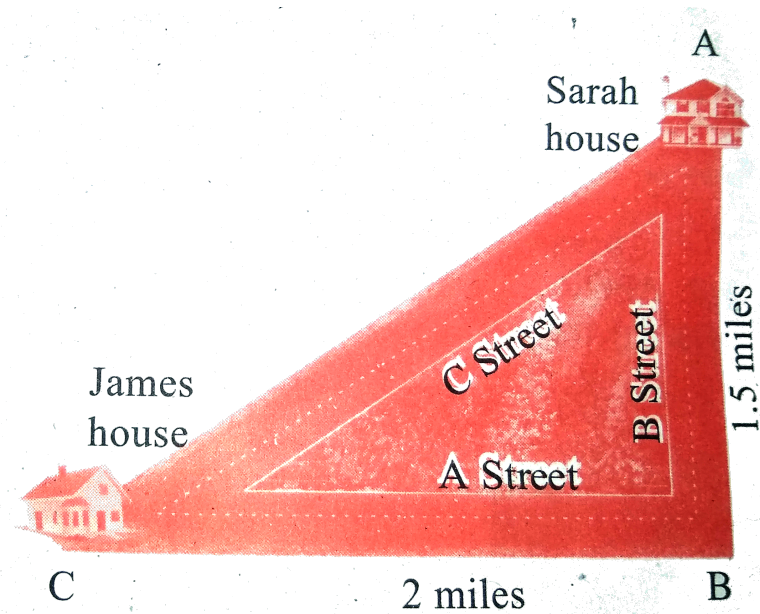
1. A man goes 18 m due east and then 24 m due north. Find the distance of his current position from the starting point ?



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2. There are two paths that one can choose to go from Sarah's house to James house. One way is to take C street, and the other way requires to take A street and then B street. How much shorter is the

direct path along C street ? (Using figure).



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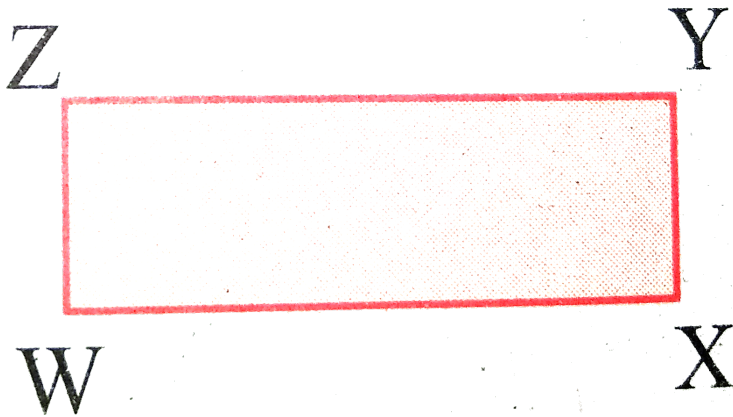
3. To get from point A to point B you must avoid walking through a pond. You must walk 34 m south and 41 m east. To the nearest meter, how many

meters would be saved if it were possible to make a way through the pond ?



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4. In the rectangle  $WXYZ$ ,  $XY + YZ = 17$  cm and  $XZ + YW = 26$  cm. Calculate the length and breadth of the rectangle ?



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5. The hypotenuse of a right triangle is 6 m more than twice of the shortest side. If the third side is 2 m less than the hypotenuse, find the sides of the triangle ?



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6. 5 m long ladder is placed leaning towards a vertical wall such that it reaches the wall at a point 4 m high. If the foot of the ladder is moved 1.6 m towards the wall, then find the distance by which the top of the ladder would slide upwards on the wall.

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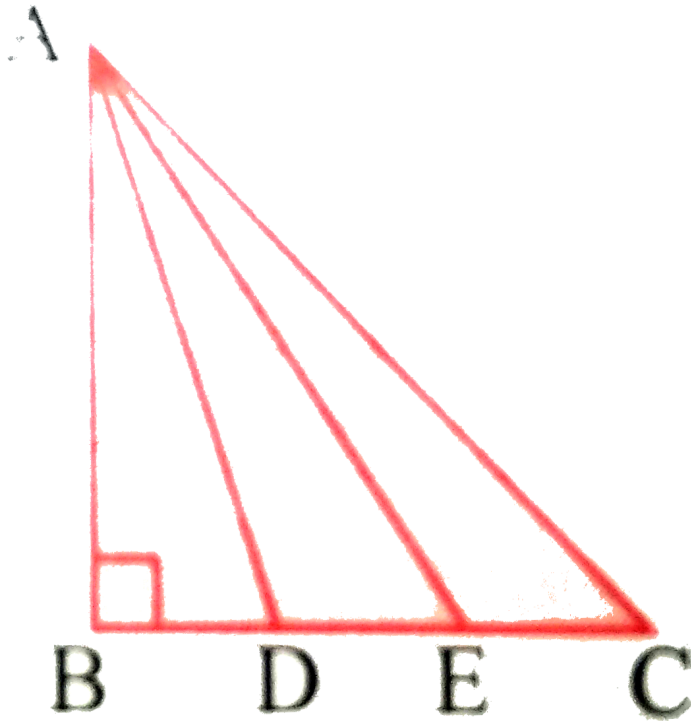
7. The perpendicular  $PS$  on the base  $QR$  of  $\triangle PQR$  intersects  $QR$  at  $S$ , such that  $QS=3 SR$ . Prove that  $2PQ^2 = 2PR^2 + QR^2$ .

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8. In the adjacent figure,  $ABC$  is a right angled triangle with right angle at  $B$  and points  $D, E$  trisect



BC. Prove that  $8AE^2 = 3AC^2 + 5AD^2$ .



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Exercise 4 4

1. The length of the tangent to a circle from a point P, which is 25 cm away from the centre is 24 cm. What is the radius of the circle ?



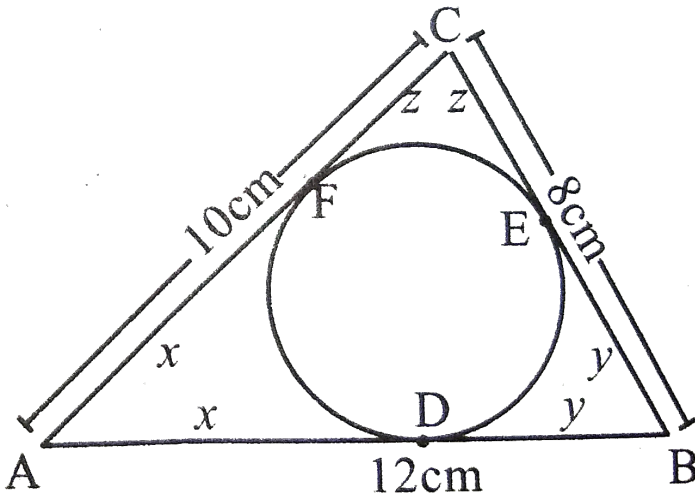
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2.  $\triangle LMN$  is a right angled triangle with  $\angle L = 90^\circ$ . A circle is inscribed in it. The lengths of the sides containing the right angle are 6 cm and 8 cm. Find the radius of the circle.



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3. A circle is inscribed in  $\triangle ABC$  having sides 8 cm, 10 cm and 12 cm as shown in figure, Find AD, BE and CF.



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4.  $PQ$  is a tangent drawn from a point  $P$  to a circle with centre  $O$  and  $QOR$  is a diameter of the circle

such that  $\angle POR = 120^\circ$ . Find  $\angle OPQ$ .



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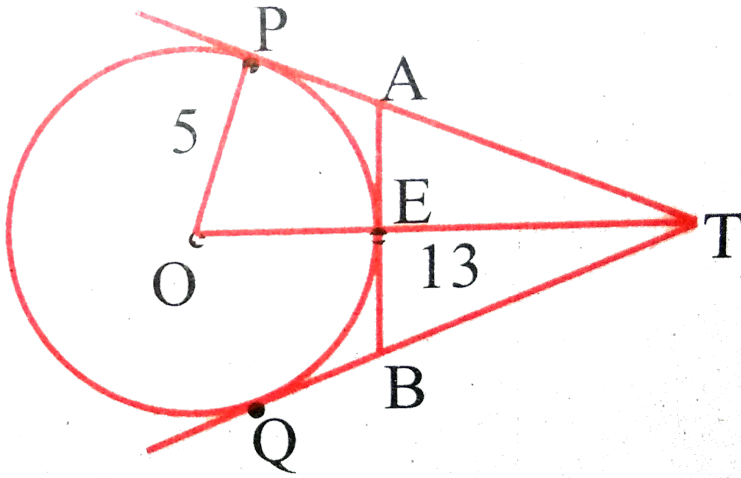
5. A tangent  $ST$  to a circle touches it at  $B$ .  $AB$  is a chord such that  $\angle ABT = 65^\circ$ , Find  $\angle AOB$ , where  $O$  is the centre of the circle.



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6. In figure,  $O$  is the centre of the circle with radius 5 cm.  $T$  is a point such that  $OT=13$  cm and  $OT$  intersects the circle  $E$ , if  $AB$  is the tangent of the circle at  $E$ , find

the length of AB.



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7. In two concentric circles, a chord of length 16 cm of larger circle becomes a tangent to the smaller circle whose radius is 6 cm. Find the radius of the larger circle.

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8. Two circles with centres  $O$  and  $O'$  of radii  $3\text{cm}$  and  $4\text{ cm}$ , respectively intersect at two points  $P$  and  $Q$ , such that  $OP$  and  $O' P$  are tangents to the two circles. Find the length of the common chord  $PQ$ .



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9. Show that the angle bisectors of a triangle are concurrent.



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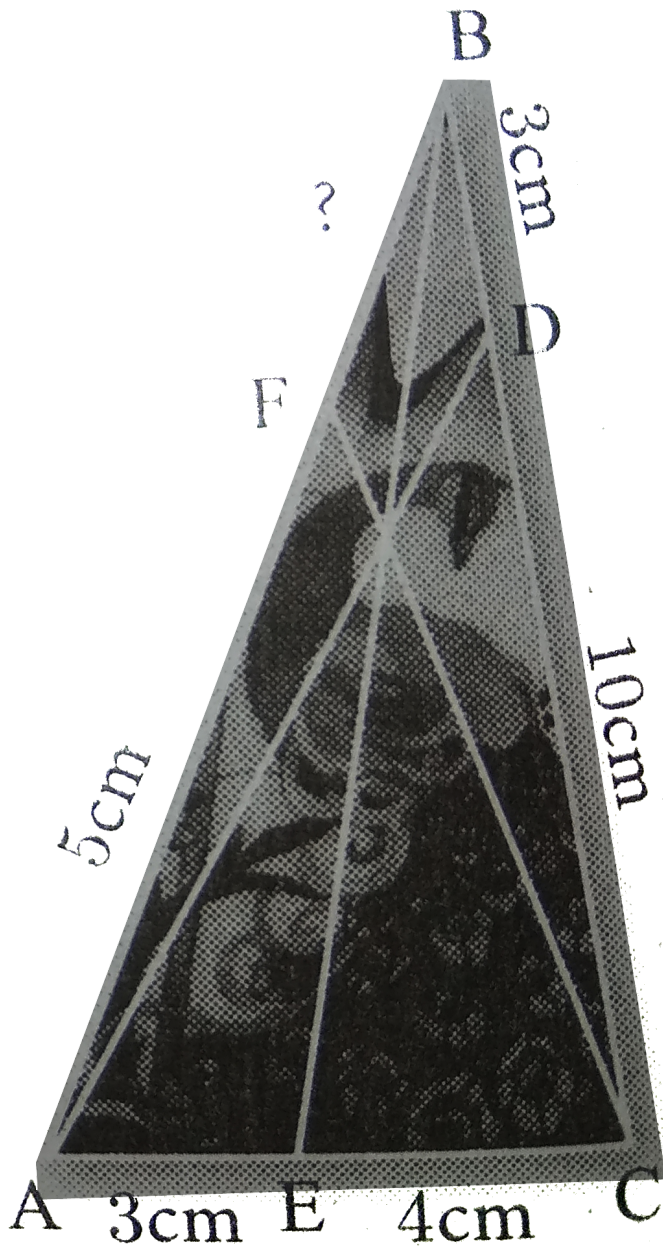
10. In  $\triangle ABC$ , with  $\angle B = 90^\circ$ ,  $BC=6$  cm and  $AB=8$  cm,  $D$  is a point on  $AC$  such that  $AD=2$  cm and  $E$  is the midpoint of  $AB$ . Join  $D$  to  $E$  and extend it to meet at  $F$ . Find  $BF$ .



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11. An artist has created a triangular stained glass window and has one strip of small length left before completing the window. She needs to figure out the length of left out portion based on the lengths of

the other sides as shown in the figure .





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**12.** Draw a tangent at any point R on the circle of radius 3.4 cm and centre at P ?

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**13.** Draw a circle of radius 4.5 cm. Take a point on the circle. Draw the tangent at that point using the alternate segment theorem.

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**14.** Draw the two tangents from a point which is 10 cm away from the centre of a circle of radius 5 cm. Also, measure the lengths of the tangents.



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**15.** Take a point which is 11 cm away from the centre of a circle of radius 4 cm and draw the two tangents to the circle from that point.



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**16.** Draw the two tangents from a point which is 5 cm away from the centre of a circle of diameter 6 cm. Also, measure the lengths of the tangents.

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**17.** Draw a tangent to the circle from the point P having radius 3.6 cm, and centre at O. Point P is at a distance 7.2 cm from the centre.

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1. If in triangles ABC and EDF,  $\frac{AB}{DE} = \frac{BC}{FD}$  then they will be similar, when

A.  $\angle B = \angle E$

B.  $\angle A = \angle D$

C.  $\angle B = \angle D$

D.  $\angle A = \angle F$

**Answer:**



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2. In

$\triangle LMN$ ,  $\angle L = 60^\circ$ ,  $\angle M = 50^\circ$ , If  $\triangle LMN \sim \triangle PQR$

then the value of  $\angle R$  is

A.  $40^\circ$

B.  $70^\circ$

C.  $30^\circ$

D.  $110^\circ$

**Answer:**



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3. If  $\triangle ABC$  is an isosceles triangle with  $\angle C = 90^\circ$  and  $AC = 5$  cm, then  $AB$  is

A. 2.5 cm

B. 5 cm

C. 10 cm

D.  $5\sqrt{2}$  cm

**Answer:**



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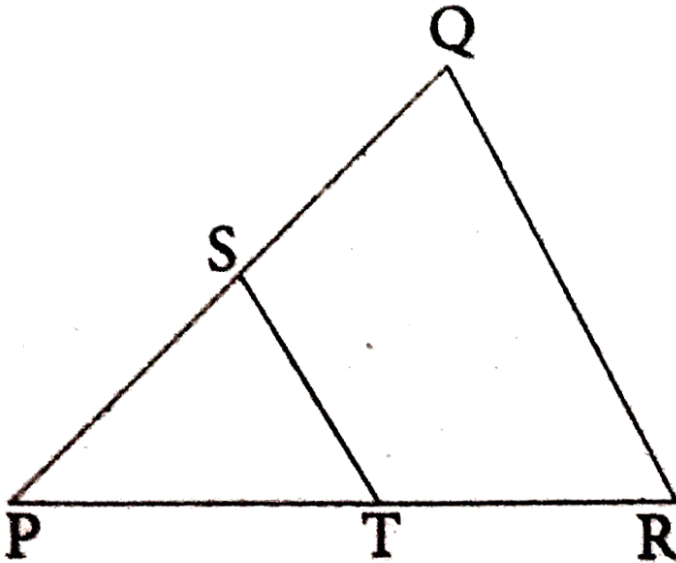
4. In a given figure,  $ST \parallel QR$ ,  $PS=2$  cm and  $QS=3$  cm.

Then the ratio of the area of  $\triangle PQR$  to the area of

$\triangle PST$

is

\_\_\_.



A. 25: 4

B. 25: 7

C. 25: 11

D. 25: 13

**Answer:**



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5. The perimeters of two similar triangles  $\triangle ABC$  and  $\triangle PQR$  are 36 cm and 24 cm respectively. IF  $PQ=10$  cm, then the length of AB is

A.  $6\frac{2}{3}cm$

B.  $\frac{10\sqrt{6}}{3}cm$

C.  $66\frac{2}{3}cm$



D.  $15\text{cm}$

**Answer:**



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6. If in  $\triangle ABC$ ,  $DE \parallel BC$  .  $AB=3.6$  cm,  $AC=2.4$  cm and  $AD=2.1$  cm then the length of  $AE$  is

A. 1.4 cm

B. 1.8 cm

C. 1.2 cm

D. 1.05 cm

**Answer:**



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7. In a  $\triangle ABC$ ,  $AD$  is the bisector of  $\angle BAC$ . If  $AB=8$  cm,  $BD=6$  cm and  $DC=3$  cm. The length of the side  $AC$  is

A. 6 cm

B. 4 cm

C. 3 cm

D. 8 cm

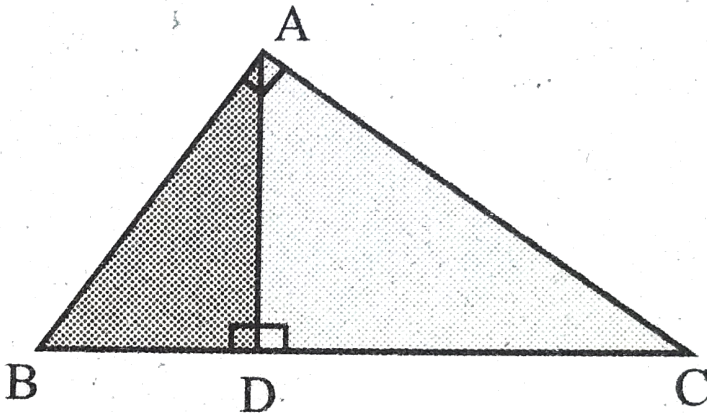
Answer:



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8. In the adjacent figure

$\angle BAC = 90^\circ$  and  $AD \perp BC$  then



A.  $BD \cdot CD = BC^2$

B.  $AB \cdot AC = BC^2$

C.  $BD \cdot CD = AD^2$

D.  $AB \cdot AC = AD^2$

**Answer:**



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9. Two poles of heights 6 m and 11 stand vertically on a plane ground. If the distance between their feet is 12 m, what is the distance between their tops ?

A. 13 cm

B. 14 m

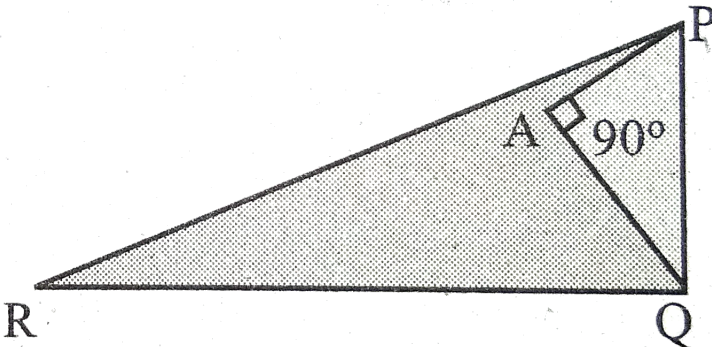
C. 15 m

D. 12.8 m

**Answer:**

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10. In the given figure,  $PR = 26$  cm,  $QR = 24$  cm,  $\angle PAQ = 90^\circ$ ,  $PA = 6$  cm and  $QA = 8$  cm. Find  $\angle PQR$



A.  $80^\circ$

B.  $85^\circ$

C.  $75^\circ$

D.  $90^\circ$

**Answer:**



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**11.** A tangent is perpendicular to the radius at the

A. centre

B. point of contact

C. infinity

D. chord

**Answer:**



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**12.** How many tangents can be drawn to the circle from an exterior point ?

A. one

B. two

C. infinite

D. zero

**Answer:**



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**13.** The two tangents from an external points P to a circle with centre at O are PA and PB. If  $\angle APB = 70^\circ$  then the value of  $\angle AOB$  is

A.  $100^\circ$

B.  $110^\circ$

C.  $120^\circ$



D.  $130^\circ$

**Answer:**

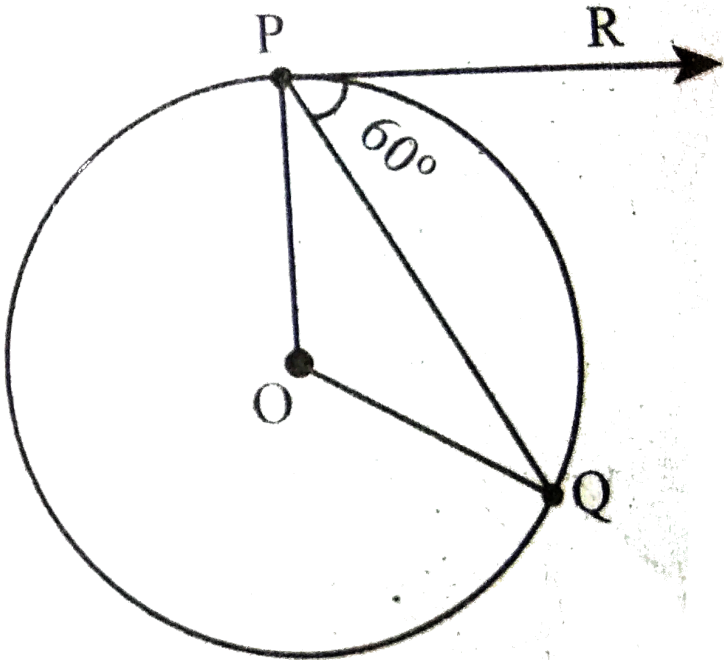


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**14.** In figure  $CP$  and  $CQ$  are tangents to a circle with centre at  $O$ .  $ARB$  is another tangent touching the circle at  $R$ . If  $CP = 11\text{cm}$  and  $BC = 7\text{cm}$ , then the



15. In figure if PR is tangent to the circle at P and O is the centre of the circle then  $\angle POQ$  is



A.  $120^\circ$

B.  $100^\circ$

C.  $110^\circ$

D.  $90^\circ$

**Answer:**



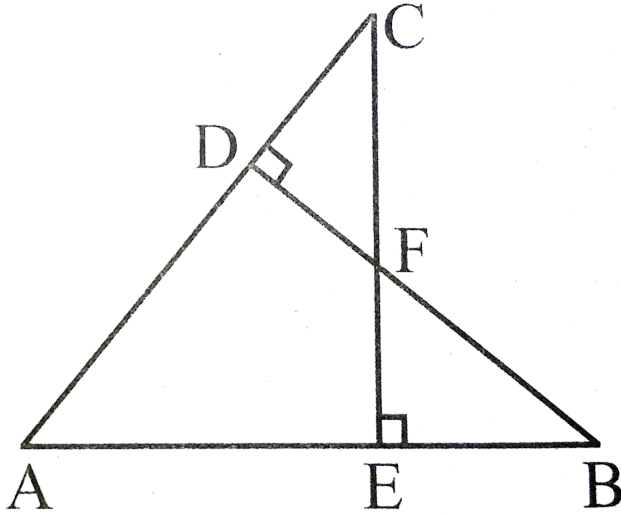
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## Unit Exercise 4

1. In the figure, if  $BD \perp AC$  and  $CE \perp AB$ , prove that

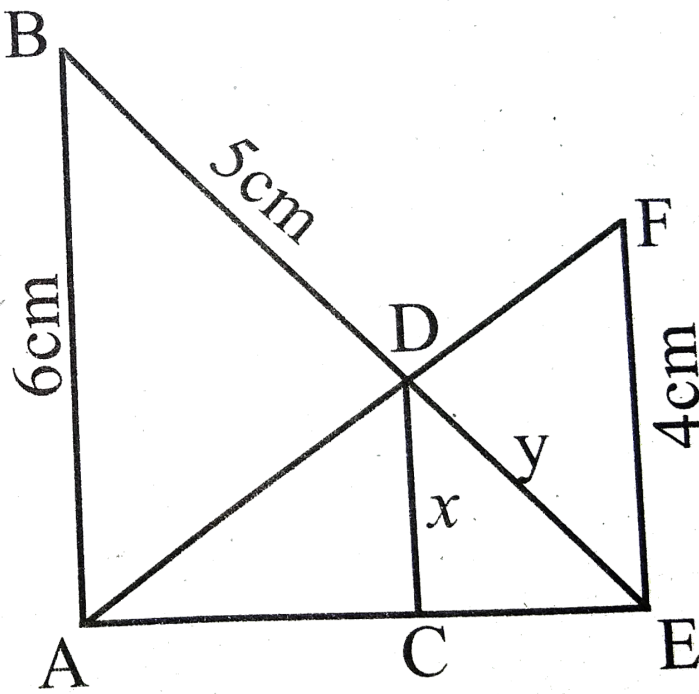
$$(i) \Delta AEC \sim \Delta ADB$$

$$(ii) \frac{CA}{AB} = \frac{CE}{DB}$$



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2. In the given figure,  $AB \parallel CD \parallel EF$ . If  $AB=6$  cm,  $CD= x$  cm,  $EF=4$  cm,  $BD=5$  cm and  $DE=y$  cm. Find  $x$  and  $y$ .



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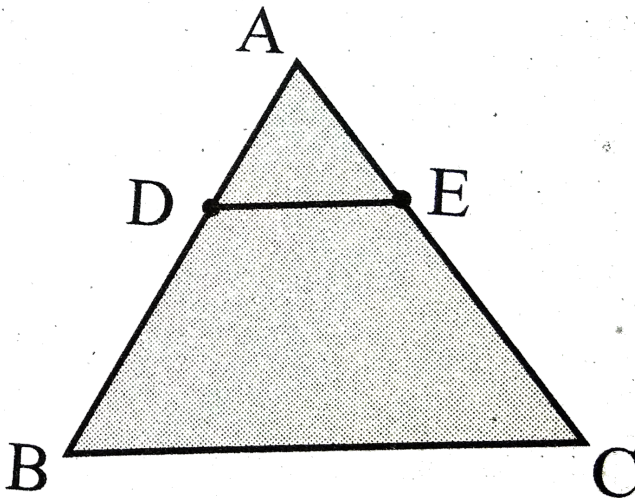
3. O is any point inside a triangle ABC. The bisector of  $\angle AOB$ ,  $\angle BOC$  and  $\angle COA$  meet the sides AB, BC and CA in point D, E and F respectively.

Show that  $AD \times BE \times CF = DB \times EC \times FA$



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4. In the figure,  $ABC$  is a triangle in which  $AB = AC$ . Points  $D$  and  $E$  are points on the side  $AB$  and  $AC$  respectively such that  $AD = AE$ . Show that points  $B, C, E$  and  $D$  lie on a same circle.



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5. Two trains leave a railway station at the same time. The first train travels due west and the second train due north . The first train travels at a speed of 20 km/ hr and the second train travels at 30 km/ hr. After 2 hours, what is the distance between them ?



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6. D is the mid point of side BC and  $AE \perp BC$ . If

$BC=a$ ,  $AC=b$ ,  $AB=c$ ,  $ED=x$ ,  $AD=p$  and  $AE=h$ , prove that

$$(i) b^2 = p^2 + ax + \frac{a^2}{4}$$

$$(ii) c^2 = p^2 - ax + \frac{a^2}{4}$$

$$(iii) b^2 + c^2 = 2p^2 + \frac{a^2}{2}$$





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7. A man whose eye-level is 2 m above the ground wishes to find the height of a tree. He places a mirror horizontally on the ground 20 m from the tree and finds that if he stands at a point C which is 4m from the mirror B, he can see the reflection of the top of the tree. How height is the tree ?



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8. An emu which is 8 ft tall standing at the foot of a pillar which is 30 ft height. It walks away from the

pillar. The shadow of the emu falls beyond emu.

What is the relation between the length of the shadow and the distance from the emu to the pillar ?



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9. Two circles intersect at A and B. From a point P on one of the circles lines PAC and PBD are drawn intersecting the second circle at C and D. Prove that CD is parallel to the tangent at P.



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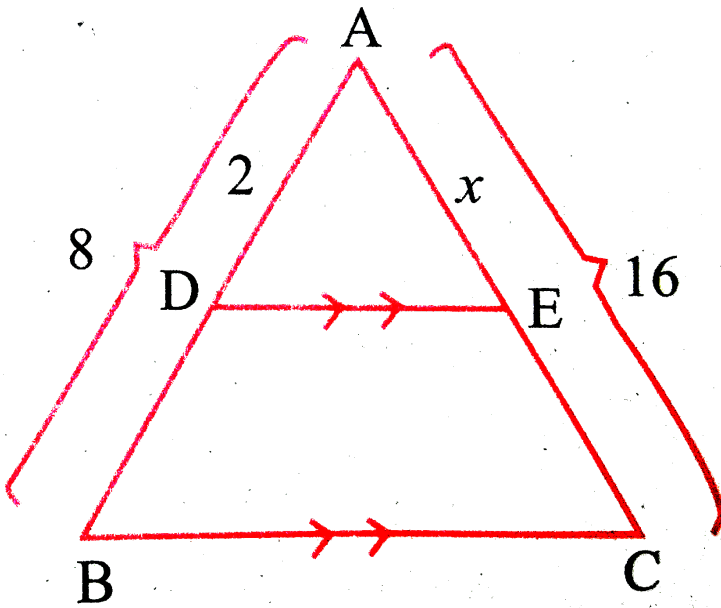
10. Let ABC be a triangle and D,E,F are points on the respective sides AB, BC, AC (or their extensions). Let  $AD : DB = 5 : 3$ ,  $BE : EC = 3 : 2$  and  $AC = 21$ . Find the length of the line segment CF.



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**Government Exam Questions**

1. In the given figure, the value of  $x$  is



A. 2

B. 8

C. 4

D. 12

**Answer:**



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2. What length of ladder is needed to reach a height of 7 ft along the wall when the base of the ladder is 4 ft from the wall ?



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3. If  $\triangle ABC$  is similar to  $\triangle DEF$  such that  $BC=3$  cm,  $EF=4$  cm and area of  $\triangle ABC = 54\text{cm}^2$ . Find the area of  $\triangle DEF$ .



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4. P and Q are the mid-points of the sides CA and CB respectively of a  $\Delta ABC$ , right angled at C. Prove that  $4(AQ^2 + BP^2) = 5AB^2$ .



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5. State and prove Pythagoras theorem.



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6. PQ is a chord of length 8 cm to a circle of radius 5 cm. The tangents at P and Q intersect at a point T. Find the length of the tangent TP.

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7. Draw a triangle ABC of base  $BC=8$  cm,  $\angle A = 60^\circ$  and the bisector of  $\angle A$  meets BC at D such that  $BD=6$  cm.

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8. In  $\triangle ABC$ , if  $DE \parallel BC$ ,  $AD=x$   $DB=x-2$ ,  $AE= x+2$  and  $EC=x-1$  then find the length of the sides  $AB$  and  $AC$ .



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9. Construct a triangle similar to a given triangle  $PQR$  with its sides equal to  $\frac{3}{5}$  of the corresponding sides of the triangle  $PQR$ . (Scaler factor  $\frac{3}{5} < 1$ ).



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[Additional Question Answers](#)



1. In figure if  $PQ \parallel RS$ , Prove that  $\Delta POQ \sim \Delta SOR$ .



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2. In  $AD \perp BC$ , prove that

$$AB^2 + CD^2 = BD^2 + AC^2$$



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3. A ladder is placed against a wall such that its foot is at a distance of 2.5 m from the wall and its top reaches a window 6 m above the ground. Find the length of the ladder.



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4. In figure OA.  $OB = OC$ . OD

Show that  $\angle A = \angle C$  and  $\angle B = \angle D$



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5. In figure O is any point inside a rectangle ABCD.

Prove that  $OB^2 + OD^2 = OA^2 + OC^2$ .



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6. In  $\angle ACD = 90^\circ$  and  $CD \perp AB$ . Prove that

$$\frac{BC^2}{AC^2} = \frac{BD}{AD}$$



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7. In figure the line segment  $xy$  is parallel to side  $AC$  of  $\triangle ABC$  and it divides the triangle into two parts of equal areas. Find the ratio  $\frac{AX}{AB}$



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8. BL and CM are medians of a triangle ABC right angled at A.

Prove that  $4(BL^2 + CM^2) = 5BC^2$



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9. Prove that in a right triangle, the square of the hypotenuse is equal to the sum of the squares of the others two sides.



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10. The perpendicular from A on side BC at a  $\triangle ABC$  intersects BC at D such that  $DB=3 CD$ . Prove that  $2AB^2 = 2AC^2 + BC^2$

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11. In  $\triangle ABC$ , if  $DE \parallel BC$ ,  $AD=x$   $DB=x-2$ ,  $AE= x+2$  and  $EC=x-1$  then find the length of the sides AB and AC.

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Unit Test Section A

1.

In

$\triangle LMN$ ,  $\angle L = 60^\circ$ ,  $\angle M = 50^\circ$ , If  $\triangle LMN \sim \triangle PQR$

then the value of  $\angle R$  is

A.  $40^\circ$

B.  $70^\circ$

C.  $30^\circ$

D.  $110^\circ$

**Answer: B**



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2. The perimeters of two similar triangles  $\triangle ABC$  and  $\triangle PQR$  are 36 cm and 24 cm respectively. If  $PQ=10$  cm, then the length of  $AB$  is

A.  $6\frac{2}{3}cm$

B.  $\frac{10\sqrt{6}}{3}cm$

C.  $66\frac{2}{3}cm$

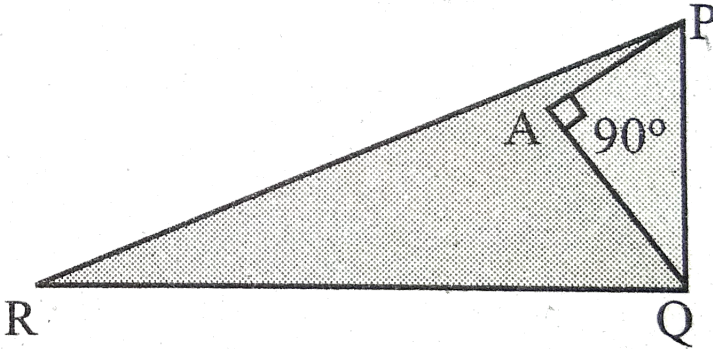
D.  $15cm$

**Answer: D**



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3. In the given figure,  $PR = 26$  cm,  $QR = 24$  cm,  $\angle PAQ = 90^\circ$ ,  $PA = 6$  cm and  $QA = 8$  cm. Find  $\angle PQR$



A.  $80^\circ$

B.  $85^\circ$

C.  $75^\circ$

D.  $90^\circ$

**Answer: D**

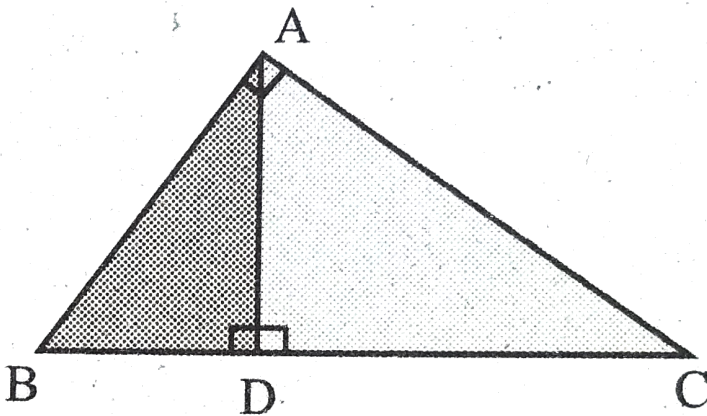




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4. In the adjacent figure

$\angle BAC = 90^\circ$  and  $AD \perp BC$  then



A.  $BD \cdot CD = BC^2$

B.  $AB \cdot AC = BC^2$

C.  $BD \cdot CD = AD^2$

$$D. AB \cdot AC = AD^2$$

**Answer: C**



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5. The two tangents from an external points P to a circle with centre at O are PA and PB. If  $\angle APB = 70^\circ$  then the value of  $\angle AOB$  is

A.  $100^\circ$

B.  $110^\circ$

C.  $120^\circ$

D.  $130^\circ$

**Answer: B**

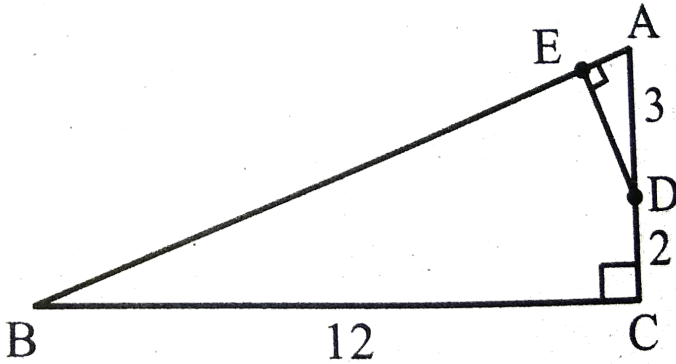


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## Unit Test Section B

1. In the adjacent figure,  $\triangle ABC$  is right angled at C and  $DE \perp AB$ . Prove that  $\triangle ABC \sim \triangle ADE$  and

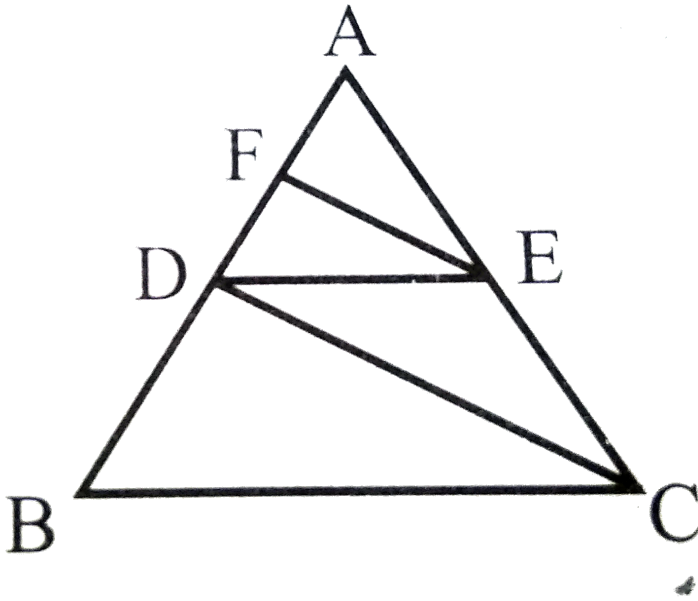
hence find the lengths of AE and DE ?



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2. In figure  $DE \parallel BC$  and  $CD \parallel EF$ . Prove that

$$AD^2 = AB \times AF.$$



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3. A man goes 18 m due east and then 24 m due north. Find the distance of his current position from the starting point ?

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4. Draw a tangent at any point R on the circle of radius 3.4 cm and centre at P ?



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5. In two concentric circles, a chord of length 16 cm of larger circle becomes a tangent to the smaller circle whose radius is 6 cm. Find the radius of the larger circle.



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6. The length of the tangent to a circle from a point P, which is 25 cm away from the centre is 24 cm. What is the radius of the circle ?



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7. To get from point A to point B you must avoid walking through a pond. You must walk 34 m south and 41 m east. To the nearest meter, how many meters would be saved if it were possible to make a way through the pond ?



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## Unit Test Section C

1. A man whose eye-level is 2 m above the ground wishes to find the height of a tree. He places a mirror horizontally on the ground 20 m from the tree and finds that if he stands at a point C which is 4m from the mirror B, he can see the reflection of the top of the tree. How height is the tree ?

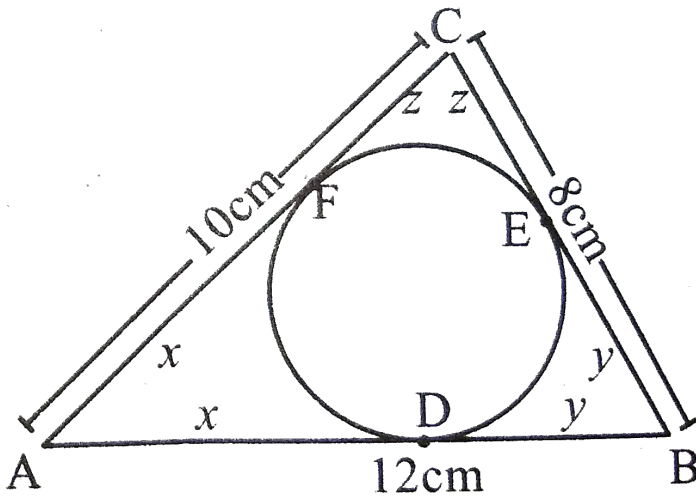


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2. A circle is inscribed in  $\triangle ABC$  having sides 8 cm, 10 cm and 12 cm as shown in figure, Find AD, BE and



CF.



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## Unit Test Section D

1. Construct a triangle similar to a given triangle ABC with its sides equal to  $\frac{6}{5}$  of the corresponding sides

of the triangle ABC (scale factor  $\frac{6}{4}$ ).



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2. Construct a  $\Delta PQR$  such that  $QR = 6.5$  cm,  $\angle P = 60^\circ$  and the altitude from P to QR is of length 4.5 cm.



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