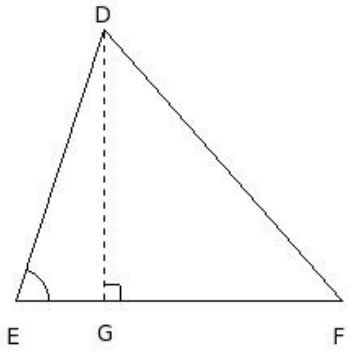
EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Pythagoras Theorem

Grade : ICSE Grade IX

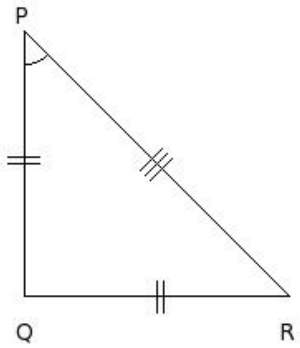
1. In the given figure, △DEF is an acute angled triangle and DG ⊥ EF. Then



(i) $DF^2 = DE^2 + EF^2 + 2EF.EG$ (ii) $DF^2 = DE^2 + EF^2 - 2EF.EG$ (iii) $DF^2 = DE^2 + EF^2 - 2DE.EF$

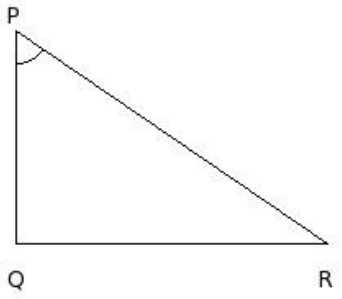
(iv) $DF^2 = DE^2 + EF^2 - DG^2$ (v) $DF^2 = DE^2 + EF^2 + 2DE.EF$

2. In an isosceles right angled triangle △PQR, if QR = 16 cm is one of the equal sides, then perimeter of the triangle =



(i) 51.63 cm (ii) 54.63 cm (iii) 49.63 cm (iv) 59.63 cm (v) 57.63 cm

3. In a right angled triangle △PQR, if QR = 19 cm is one of the perpendicular sides and RP = 23.02 cm is the hypotenuse, then side PQ =



(i) 13.00 cm (ii) 18.00 cm (iii) 16.00 cm (iv) 8.00 cm (v) 10.00 cm

4. In the given figure, BCDE is a rhombus. Which of the following are true?

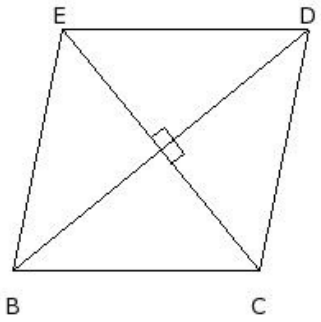
a) $BC^2 + CD^2 + DE^2 + BE^2 = BD^2 + CE^2$

b) $2\,BC^2 = BD^2 + CE^2$

c) $BC^2 + CD^2 = BD^2$

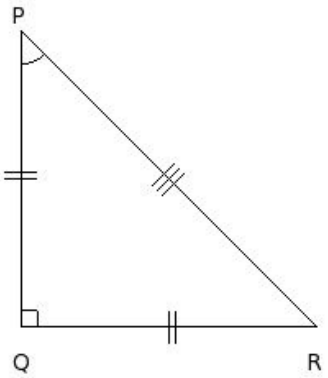
d) $CD^2 + DE^2 = CE^2$

e) $4\,BC^2 = BD^2 + CE^2$



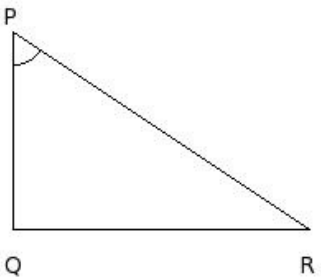
(i) {b,a} (ii) {c,e} (iii) {a,e} (iv) {c,e,a} (v) {d,b,a}

5. In an isosceles right angled triangle △PQR, if corresponding height to the base QR is 18 cm, then side PQ =



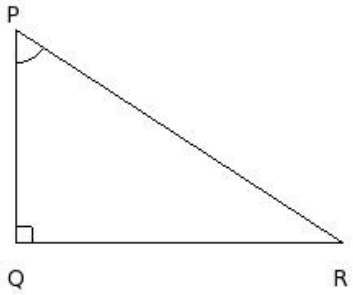
(i) 18.00 cm (ii) 15.00 cm (iii) 23.00 cm (iv) 13.00 cm (v) 21.00 cm

6. In a right angled triangle △PQR, if QR = 18 cm is one of the perpendicular sides and RP = 21.63 cm is the hypotenuse, then corresponding height of side PQ =



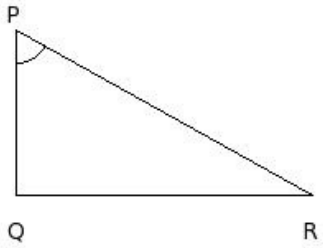
(i) 18.00 cm (ii) 15.00 cm (iii) 21.00 cm (iv) 13.00 cm (v) 23.00 cm

7. In a right angled triangle △PQR, if the base QR = 20 cm and the corresponding height is 13 cm, then side PQ =



(i) 10.00 cm (ii) 8.00 cm (iii) 13.00 cm (iv) 16.00 cm (v) 18.00 cm

8. In a right angled triangle △PQR, if the area is 90 sq.cm and base QR = 18 cm, then side RP =

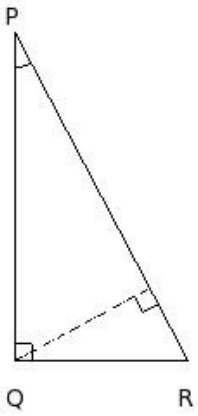


(i) 20.59 cm (ii) 23.59 cm (iii) 25.59 cm (iv) 15.59 cm (v) 17.59 cm

9. The altitude and area of an equilateral triangle of side 'a' is

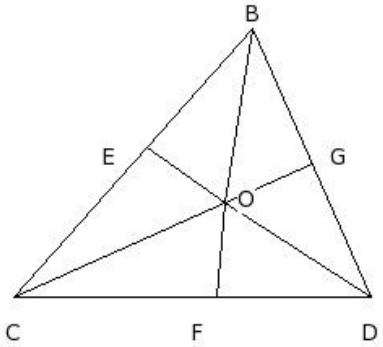
(i) $\frac{1}{2}\sqrt{3}\,a, \frac{1}{2}\sqrt{3}\,a^2$ (ii) $\sqrt{3}\,a, \frac{1}{2}\sqrt{3}\,a^2$ (iii) $\frac{1}{2}\sqrt{3}\,a, \frac{1}{4}\sqrt{3}\,a^2$ (iv) $\sqrt{3}\,a, \frac{1}{2}\sqrt{3}\,a$

10. In a right angled triangle △PQR, if the base QR = 10 cm and the corresponding height is 19 cm, then corresponding height of side RP =



(i) 8.85 cm (ii) 7.85 cm (iii) 6.85 cm (iv) 10.85 cm (v) 9.85 cm

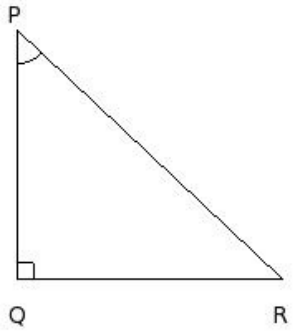
11. In the given figure, BCD is a triangle and 'O' is a point inside △BCD. The angular bisector of ∠COB, ∠DOC & ∠BOD meet BC, CD & DB at E, F & G respectively . Then



(i) BE . CF . DG = EC . FD . GB (ii) BE . CF . DG = OE . OF . OG (iii) BE . CF . DG = BC . CD . DB

(iv) BE . CF . DG = OB . OC . OD (v) BE . CF . DG = EF . FG . GE

12. In a right angled triangle △PQR, if the base QR = 16 cm and the corresponding height is 15 cm, then corresponding height of side PQ =



(i) 11.00 cm (ii) 21.00 cm (iii) 19.00 cm (iv) 16.00 cm (v) 13.00 cm

13. In the given figure, $\triangle CED$ is right-angled at E. T is the mid-point of CE and U is the mid-point of DE. Which of the following cases are true?

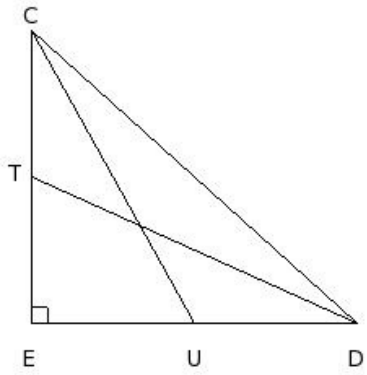
a) $4\,DT^2 = 4\,CE^2 + DE^2$

b) $4\,CU^2 = 4\,CE^2 + DE^2$

c) $4\,CU^2 = 4\,DE^2 + CE^2$

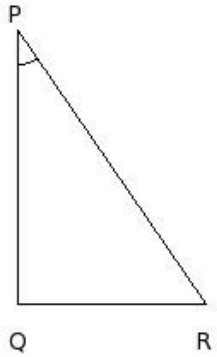
d) $4\,(CU^2 + DT^2) = 5\,CD^2$

e) $4\,DT^2 = 4\,DE^2 + CE^2$



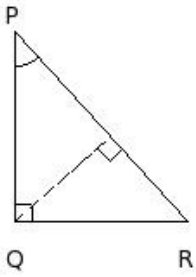
(i) {a,b} (ii) {a,c,e} (iii) {b,d,e} (iv) {c,d} (v) {a,b,d}

14. In a right angled triangle △PQR, if QR = 11 cm, PQ = 16 cm are the lengths of perpendicular sides , then side RP =



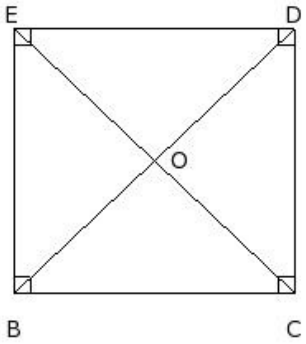
(i) 16.42 cm (ii) 24.42 cm (iii) 22.42 cm (iv) 14.42 cm (v) 19.42 cm

15. In a right angled triangle △PQR, if the area is 55 sq.cm and corresponding height of side QR = 11 cm, then corresponding height of side RP =



(i) 7.40 cm (ii) 8.40 cm (iii) 6.40 cm (iv) 5.40 cm (v) 9.40 cm

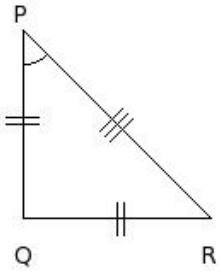
16. In the given figure, O is a point in the interior of the rectangle BCDE. Then



(i) $OB^2 + OC^2 + OD^2 + OE^2 = BD^2 + CE^2$ (ii) $OB^2 + OC^2 + OD^2 + OE^2 = BC^2 + CD^2 + DE^2 + EB^2$

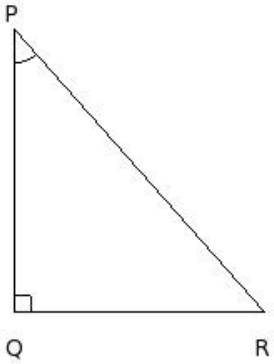
(iii) $OB^2 - OD^2 = OC^2 - OE^2$ (iv) $OB^2 + OD^2 = OC^2 + OE^2$

17. In an isosceles right angled triangle △PQR, if QR = 11 cm is one of the equal sides, then area of the triangle =



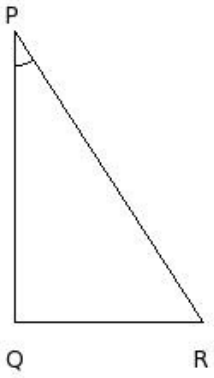
(i) 55.50 sq.cm (ii) 57.50 sq.cm (iii) 63.50 sq.cm (iv) 65.50 sq.cm (v) 60.50 sq.cm

18. In a right angled triangle △PQR, if the area is 127.5 sq.cm and corresponding height of side QR = 17 cm, then side QR =



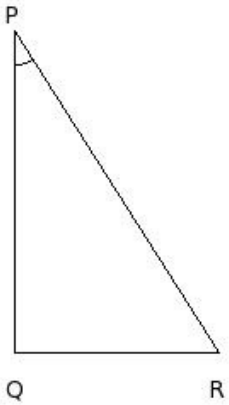
(i) 12.00 cm (ii) 15.00 cm (iii) 20.00 cm (iv) 18.00 cm (v) 10.00 cm

19. In a right angled triangle △PQR, if the area is 93.5 sq.cm and base QR = 11 cm, then perimeter of the triangle =



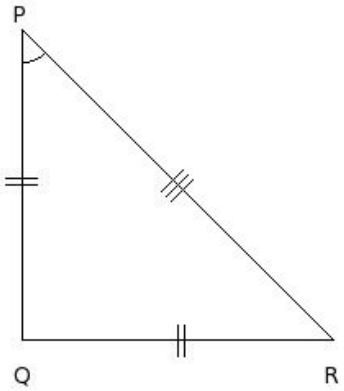
(i) 51.25 cm (ii) 45.25 cm (iii) 48.25 cm (iv) 53.25 cm (v) 43.25 cm

20. In a right angled triangle △PQR, if QR = 12 cm is one of the perpendicular sides and RP = 22.47 cm is the hypotenuse, then area of the triangle =



(i) 140.00 sq.cm (ii) 98.00 sq.cm (iii) 114.00 sq.cm (iv) 106.00 sq.cm (v) 119.00 sq.cm

21. In an isosceles right angled triangle △PQR, if QR = 19 cm is one of the equal sides, then side RP =

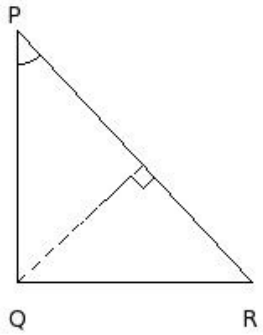


(i) 31.87 cm (ii) 26.87 cm (iii) 23.87 cm (iv) 21.87 cm (v) 29.87 cm

22. Two poles of heights 10 m and 18 m stand vertically on a plane ground. If the distance between their feet is 12 m, find the distance between their tops

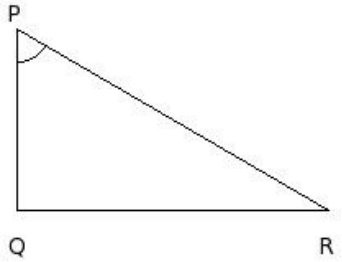
(i) 13.42 m (ii) 15.42 m (iii) 16.42 m (iv) 12.42 m (v) 14.42 m

23. In a right angled triangle △PQR, if QR = 14 cm is one of the perpendicular sides and RP = 20.52 cm is the hypotenuse, then corresponding height of side RP =



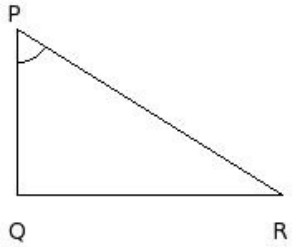
(i) 10.23 cm (ii) 13.23 cm (iii) 5.23 cm (iv) 7.23 cm (v) 15.23 cm

24. In a right angled triangle △PQR, if QR = 19 cm, PQ = 11 cm are the lengths of perpendicular sides , then corresponding height of side PQ =



(i) 14.00 cm (ii) 16.00 cm (iii) 19.00 cm (iv) 22.00 cm (v) 24.00 cm

25. In a right angled triangle △PQR, if the area is 80 sq.cm and base QR = 16 cm, then side PQ =



(i) 5.00 cm (ii) 13.00 cm (iii) 7.00 cm (iv) 10.00 cm (v) 15.00 cm

Assignment Key

1) (ii)	2) (ii)	3) (i)	4) (iii)	5) (i)	6) (i)
7) (iii)	8) (i)	9) (iii)	10) (i)	11) (i)	12) (iv)
13) (iii)	14) (v)	15) (i)	16) (iv)	17) (v)	18) (ii)
19) (iii)	20) (iii)	21) (ii)	22) (v)	23) (i)	24) (iii)
25) (iv)					