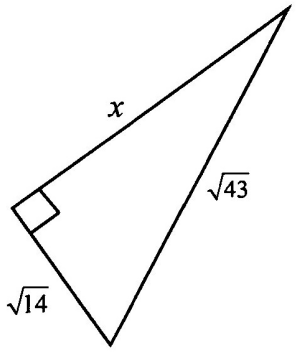
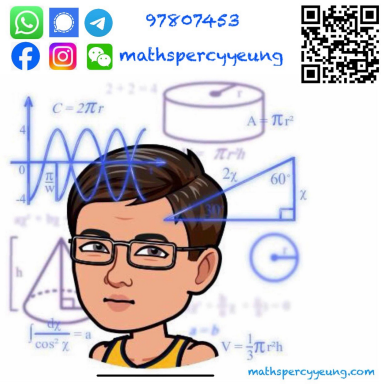
SWC F2 Ch3 Pythagoras Theorem

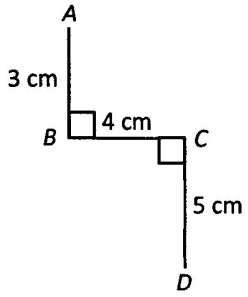
Ch3 Pythagoras' Theorem

1. Find the unknown in the following triangle. Leave your answer in surd form.

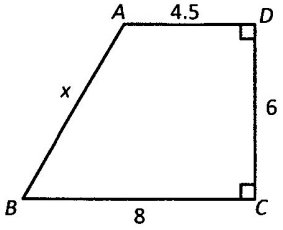




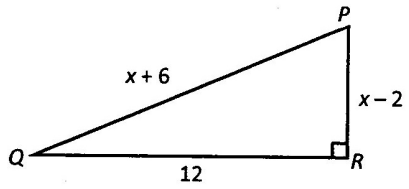
2. Consider the figure below. Find the length of the line segment joining A and D.
   Give the answer correct to 3 significant figures.



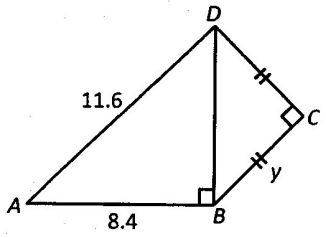
3. In the figure, $ABCD$ is a trapezium, where $AD = 4.5$, $BC = 8$ and $CD = 6$. Find the value of x.
   Give the answer correct to 3 significant figures.



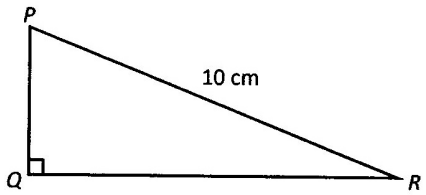
4. In the figure, $\angle PRQ = 90°$, $PR = x - 2$, $PQ = x + 6$ and $QR = 12$. Find the value of x.



5. In the figure, ABD and BCD are right-angled triangles, where $AB = 8.4$, $AD = 11.6$ and $BC = CD$. Find the value of y. Give the answer correct to 3 significant figures.



6. In the figure, $\angle PQR = 90°$, $PQ : QR = 2 : 5$ and $PR = 10$ cm.

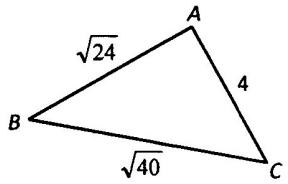


(a) Find the perimeter of $\triangle PQR$.

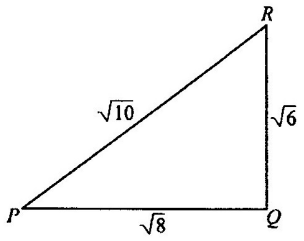
(b) Find the area of $\triangle PQR$.

(*Give the answers correct to 3 significant figures.*)

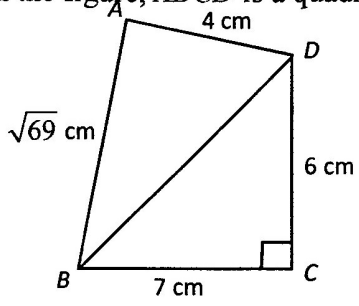
7. Determine whether the following triangle is a right-angled triangle. If it is, identify which angle is a right angle.



8. Determine whether the following triangle is a right-angled triangle. If it is, identify which angle is a right angle.



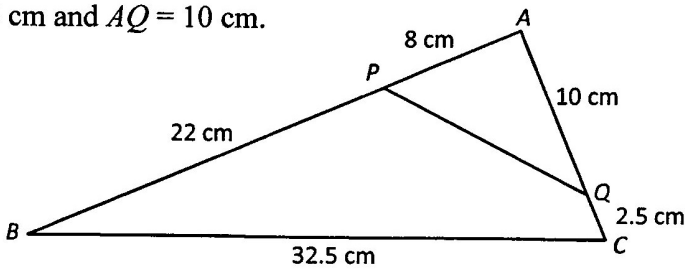
9. In the figure, $ABCD$ is a quadrilateral. $AB = \sqrt{69}$ cm, $BC = 7$ cm, $CD = 6$ cm and $AD = 4$ cm.



(a) Show that $\triangle ABD$ is a right-angled triangle.

(b) Find the area of the quadrilateral $ABCD$, correct to 3 significant figures.

10. In the figure, APB and AQC are straight lines. $AP = 8$ cm, $PB = 22$ cm, $BC = 32.5$ cm, $QC = 2.5$ cm and $AQ = 10$ cm.



(a) Show that $\triangle ABC$ is a right-angled triangle.

(b) Find the length of PQ, correct to 3 significant figures.