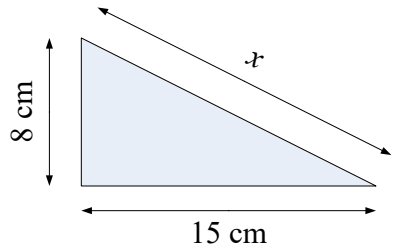
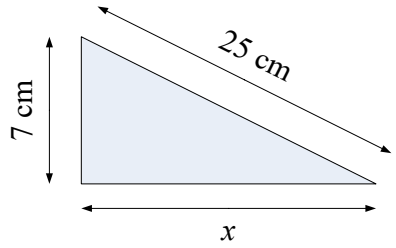
Q1 For each of the following questions, find the value of $x$.

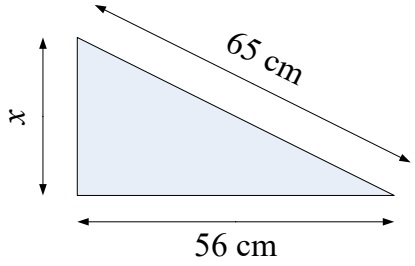
a



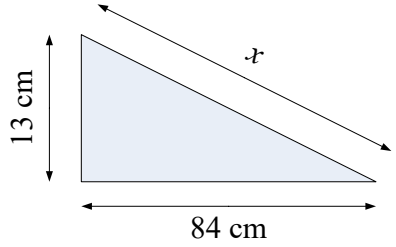

b



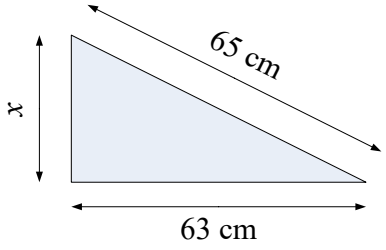

c



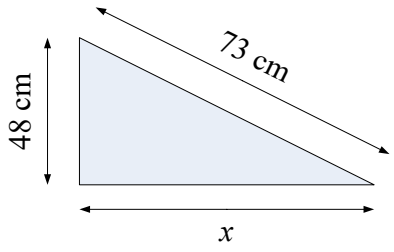

d



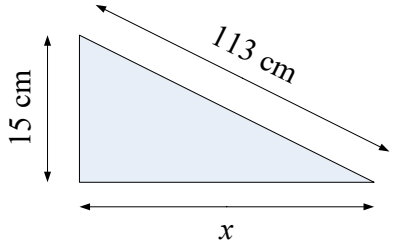

e



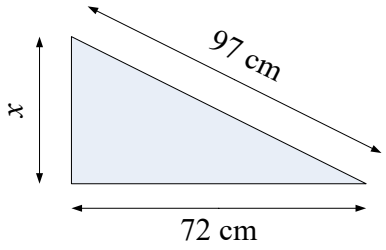

f



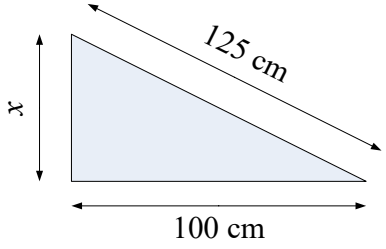

g



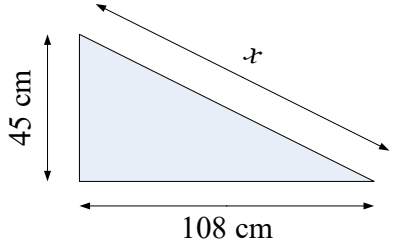

h




i

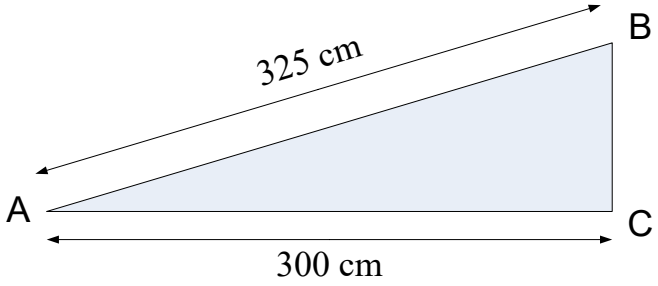



j

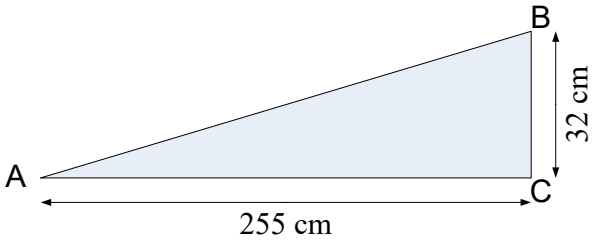


Q2 Find the **perimeter** of the following right-angled triangles. Write down each stage of your calculation.

a

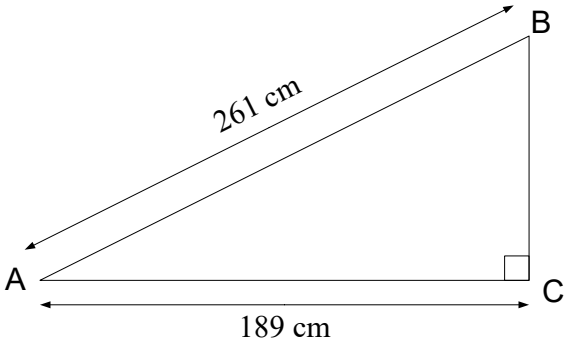



b

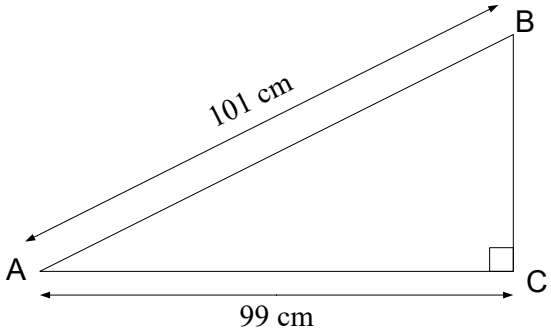



Q3 Find the **area** of the following right-angled triangles.

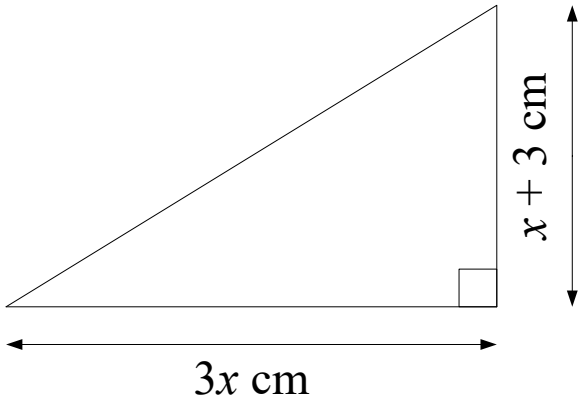
a




b



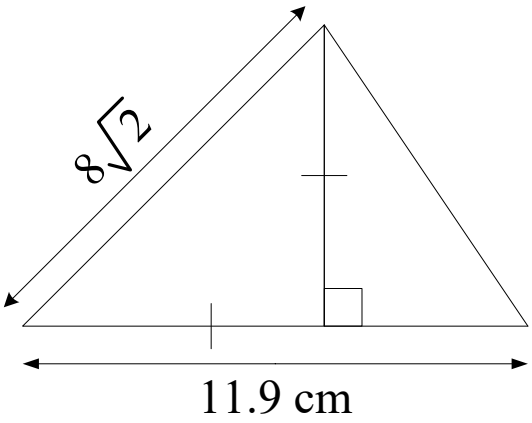
Q4 A triangle has an area of **60cm²**. Write down each stage of your calculation.



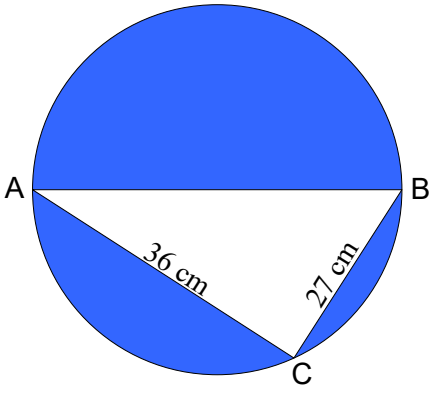

a Find the value of x.

b Hence, find the perimeter of the triangle.

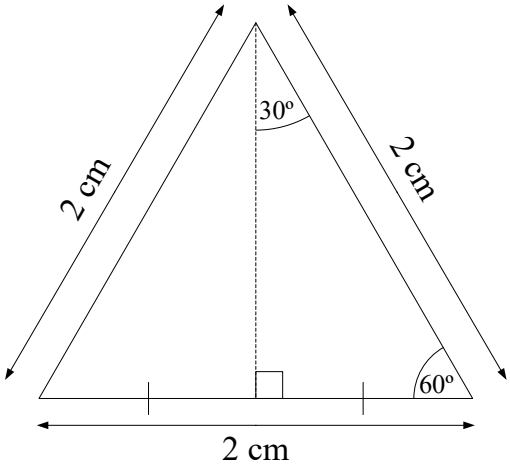
Q5 Find the perimeter of the triangle below. Write down each stage of your calculation.

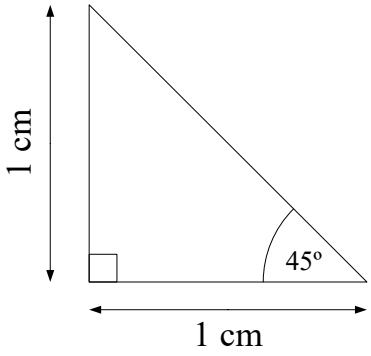



Q6 AB is the diameter of the circle. Find the area of the shaded part of the circle. Write down each stage of your calculation.



Q7 Bearing in mind that $\sin\theta = \frac{Opposite}{Hypotenuse}$, $\cos\theta = \frac{Adjacent}{Hypotenuse}$ and $\tan\theta = \frac{Opposite}{Adjacent}$, use Pythagoras' Theorem to find the exact values of the values in the following table:




| Trigonometric Ratio | 30° | 45° | 60° |
|---|---|---|---|
| $\sin\theta$ | | | |
| $\cos\theta$ | | | |
| $\tan\theta$ | | | |

Q8 Pythagorean Triples are numbers whose lengths would build a right-angled triangle. for instance, 3 4, 5 is a Pythagorean triple because $5^2 = 4^2 + 3^2$.

I have a theory that if you chose two numbers, m and n then you could construct Pythagorean Triples using the following expressions.

$2mn$, $m^2 + n^2$ and $m^2 - n^2$

Select three different values of m and n and see if my theory is correct.