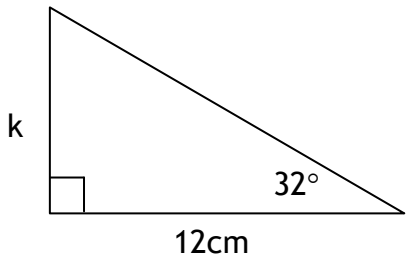
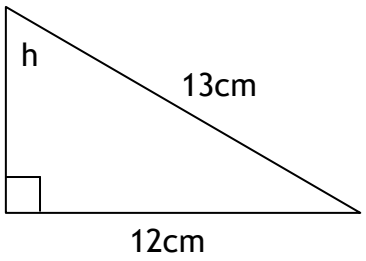
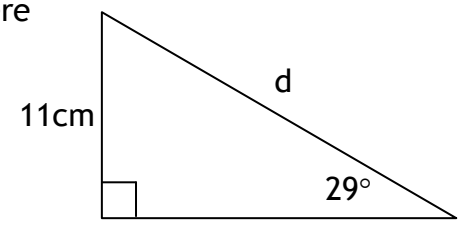
Area, Perimeter, Volume, Pythagoras and Trigonometry

Level	Key Questions
EP	▪ A 6 by 6 by 6 cube is special as its volume and surface area have the same value. What is the length of the longest diagonal that can be drawn between two vertices of the cube?
8	▪ Calculate the value of 'k' in the triangle here 
	▪ Calculate the value of 'h' in the triangle here 
	▪ Calculate the value of 'd' in the triangle here 

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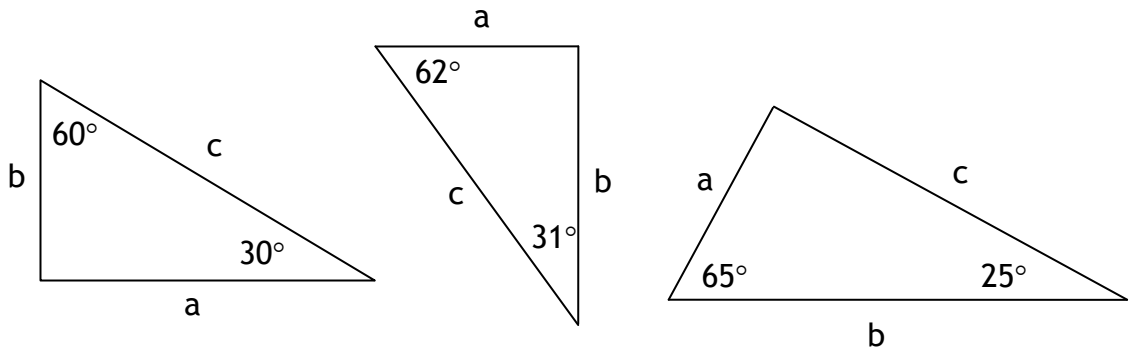
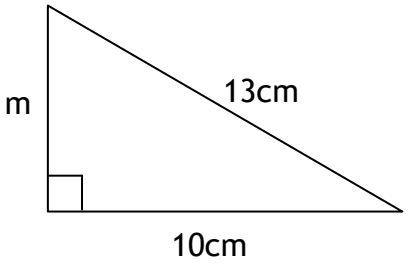
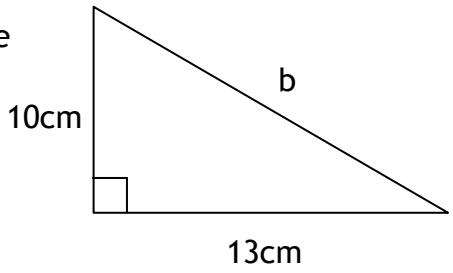
- In which of these triangles is it true that $a^2+b^2 = c^2$?



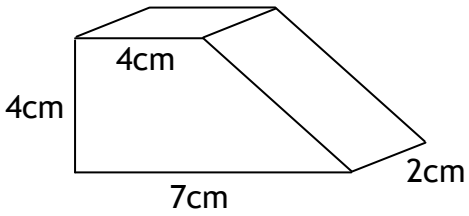
- Calculate the value of 'm' in the triangle here



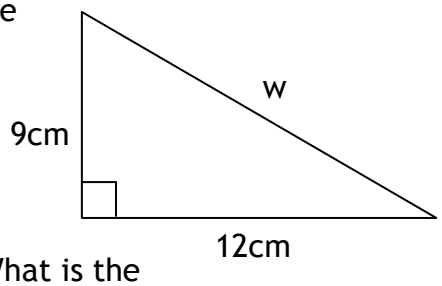
- A ladder is 5 metres long. Bob (the builder) places it against a wall so that it reaches up 4 metres. What is the distance from the base of the ladder to the wall?
- Calculate the value of 'b' in the triangle here



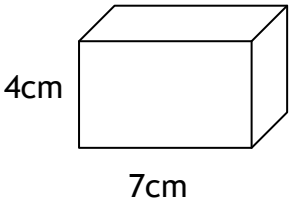
- Calculate the volume of this prism:



- Calculate the value of 'w' in the triangle here



- The surface area of this cuboid is $122cm^3$. What is the depth of the cuboid?



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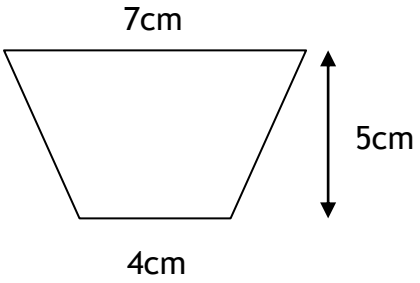
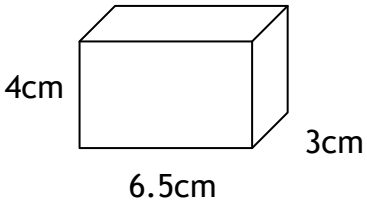
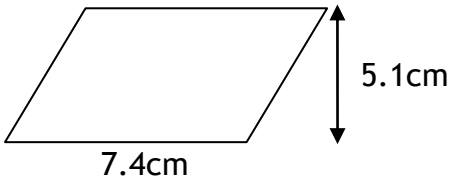
- Find the area and circumference of a circle with diameter 11cm. Give both your answers to 2 decimal places.
- Find the area of this isosceles trapezium
- Find the surface area of the cuboid below

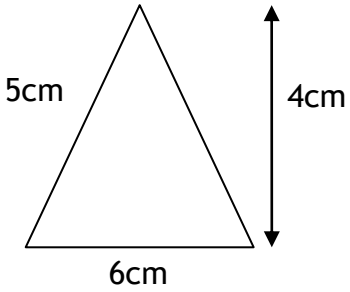


- What is the volume of this cuboid?



- Give the dimensions of three different triangles with an area of $12cm^2$.
- Calculate the area of each of these shapes:





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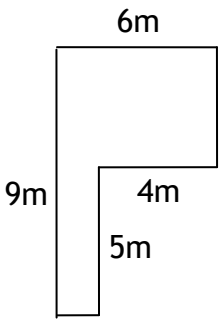
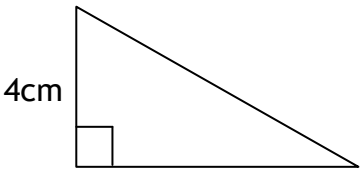
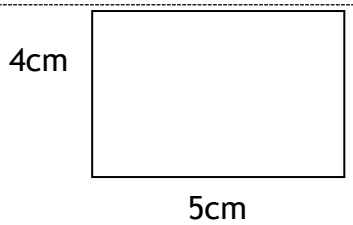
- Find the area and perimeter of this shape:



- Use your answer in section 5(c) to find the area of the triangle here:
- Explain why the perimeter of this triangle is **not** 9cm



- Find the area and perimeter of the rectangle here:



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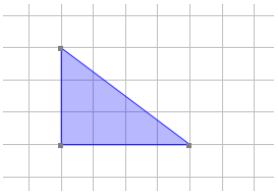
- What is the area of the blue triangle?



- What is the perimeter of the rectangle?
- What is the area of the blue rectangle?