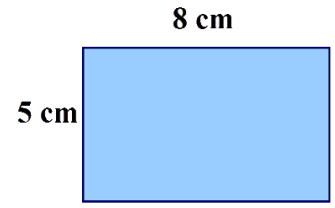
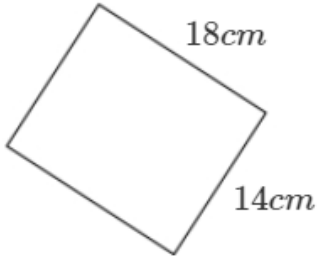
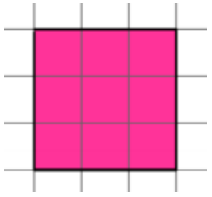
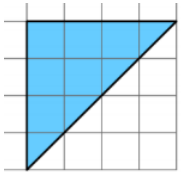
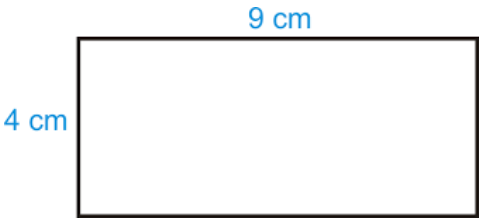
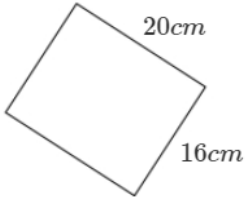
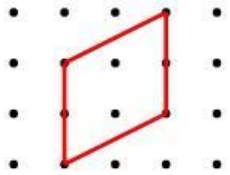
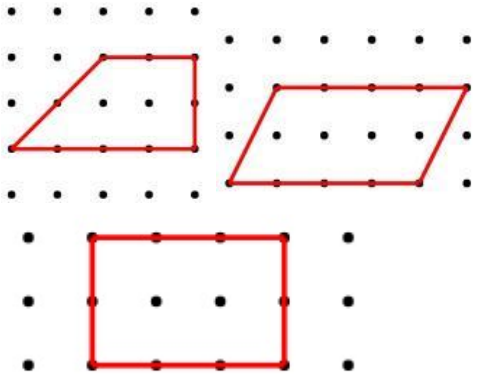
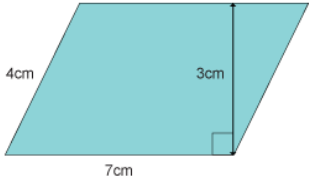
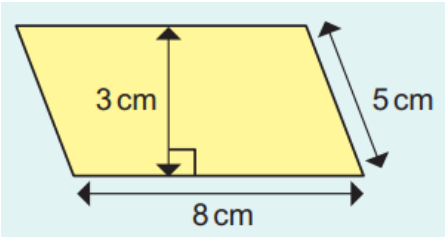
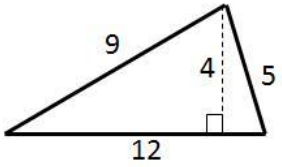
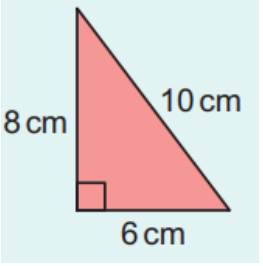
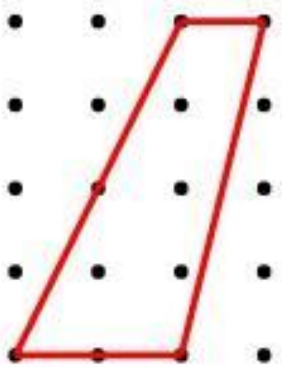
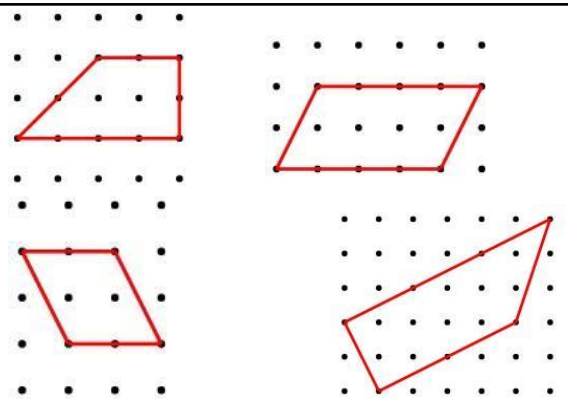
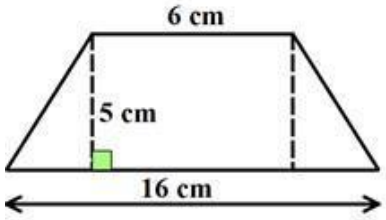
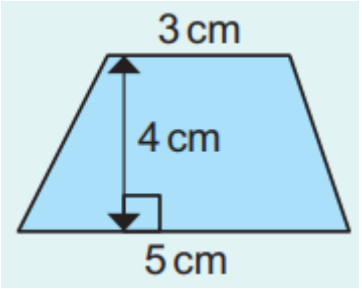
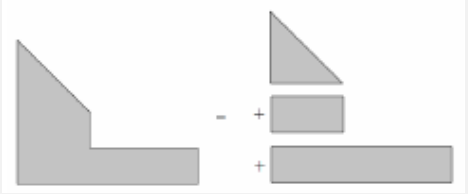
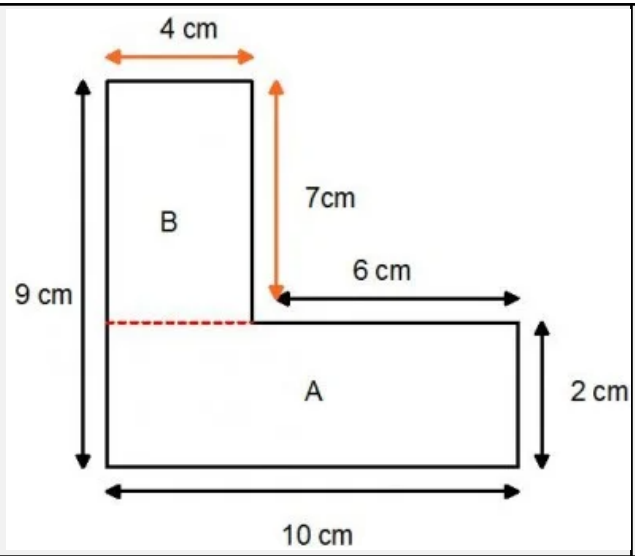
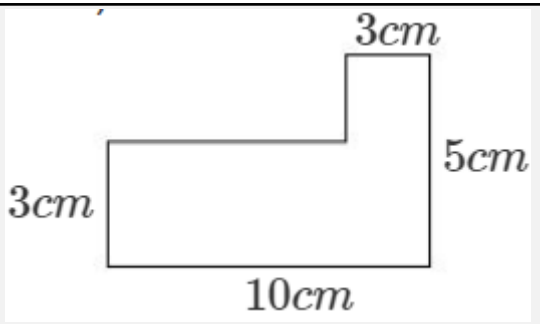
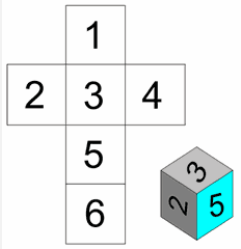
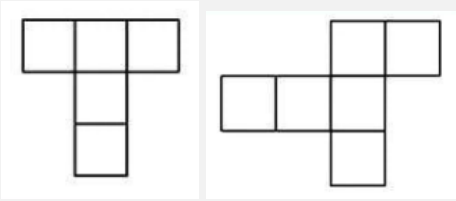
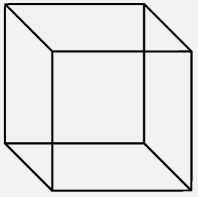
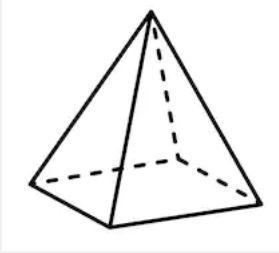
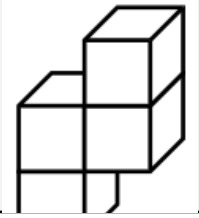
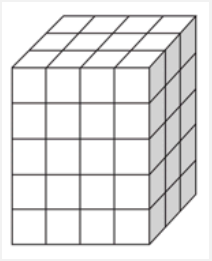
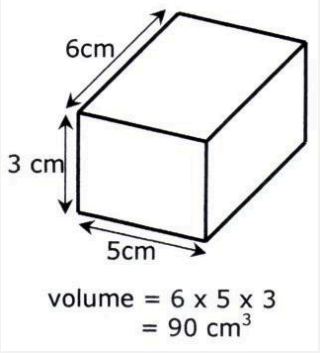
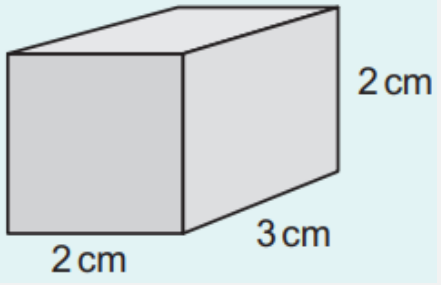
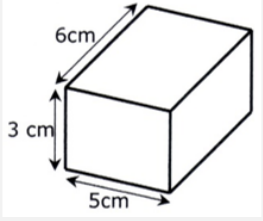
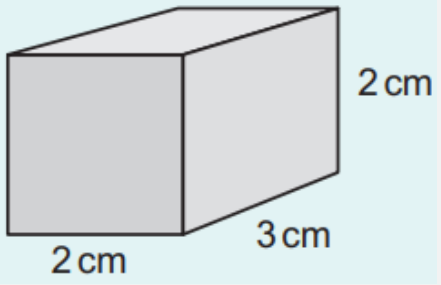
GCSE Mathematics – Unit 8: Perimeter, Area and Volume 1 **Name:……**

Topic/Skill	Definition/Tips	Example	Your Turn
Perimeter	The **total distance** around the **outside** of a shape. Units include: $mm,\ cm,\ m$ etc.	 $P = 8 + 5 + 8 + 5 = 26cm$	
Area	The amount of **space inside** a shape. Units include: $mm^2,\ cm^2,\ m^2$	 Area : 9 squares	 Area:
Area of a Rectangle	**Length x Width**	 $A = 9x4 = 36cm^2$	
Parallelogram	A parallelogram has **two pairs of parallel sides.**		Tick the correct examples

			
Area of a Parallelogram	**Base x Perpendicular Height** Not the slant height.	$A = 3x7$ $= 21cm^2$ 	
Area of a Triangle	$\frac{Base\ x\ Height}{2}$ **(Perpendicular** Height – has to meet the base at **90◦)**	 $A = \frac{12x4}{2}$ $=24cm^2$	
Trapezia	A trapezium is a quadrilateral with **just one pair of parallel sides.**		Tick the correct examples

			
Area of a Trapezium	$\frac{(a+b)}{2} \times h$ "Half the sum of the parallel side, times the height between them. That is how you calculate the area of a trapezium"	 $A = \frac{16+6}{2} x\ 2$ $= 55cm^2$	
Compound Shape	A shape made up of a **combination of other known shapes** put together.		What shapes is this compound made out of?
Find the Missing Lengths of a Compound Shape	Use the opposite lengths of rectangles to work out parts of a side and then		Find the missing lengths

	subtract to get the rest.		
Net	A pattern that you can **cut and fold** to make a **model** of a **3D shape**.		Tick the net of a cube 
Properties of Solids	**Faces = flat surfaces** **Edges = sides/lengths** **Vertices = corners**	A cube has 6 faces, 12 edges and 8 vertices. 	 A square-based pyramid has…
Volume	Volume is a measure of the amount of space inside a solid shape.		 Volume: 4cm^3

	Units: mm^3, cm^3, m^3 etc.		
Volume of a Cube/Cuboid	$V = Length \times Width \times He$ $V = L \times W \times H$ You can also use the Volume of a Prism formula for a cube/cuboid.	 volume = 6 x 5 x 3 = 90 cm^3	
Surface area a Cube/Cuboid	The total area of all the faces of a cube/cuboid	 Area of front and back = 3 x 5 x 2 = 30cm^2 Area of left and right = 3 x 6 x 2 = 36cm^2 Area of top and bottom = 5 x 6 x 2 = 60cm^2	

		Surface area = 30 + 36 + 60 = 126cm^2	