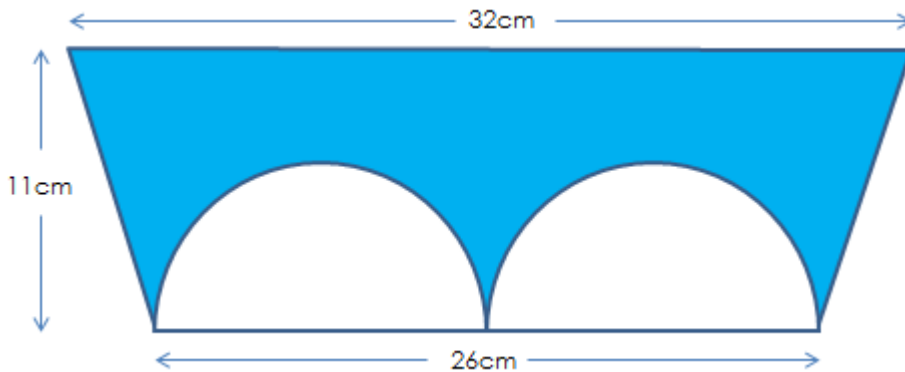
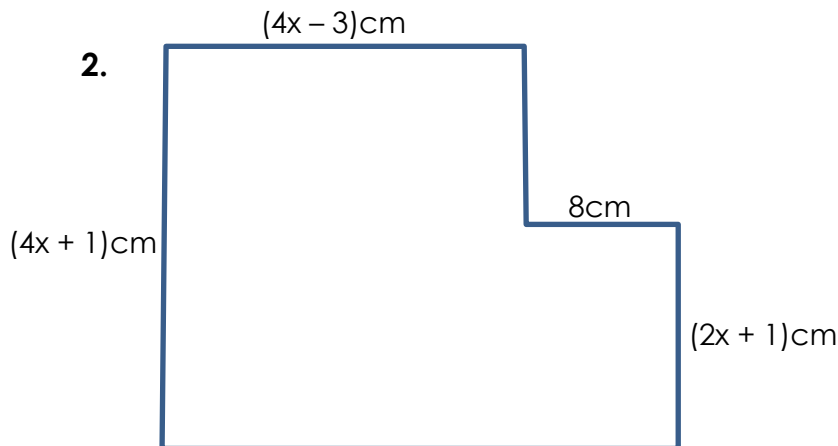


Name: \_\_\_\_\_  
**YEAR 11 MINI-ASSESSMENT 12**  
**HIGHER – PERIMETER, AREA, VOLUME**

1. The diagram shows a trapezium and two identical semi-circles. Find the area of the shaded region. Give your answer correct to 4 significant figures.



**[4 marks]**



The area of this shape is  $445\text{cm}^2$ .  
(a) Show that  $2x^2 - x - 55 = 0$ .

(3)

- (b) Hence find the perimeter of the shape.

(4)

**[7 marks]**

3. A cone and a sphere have the same radius. They also have the same volume. Find the ratio of the radius of the cone to its height.  
(Volume of a cone =  $\frac{1}{3}\pi r^2 h$       Volume of a sphere =  $\frac{4}{3}\pi r^3$ )

**[3 marks]**