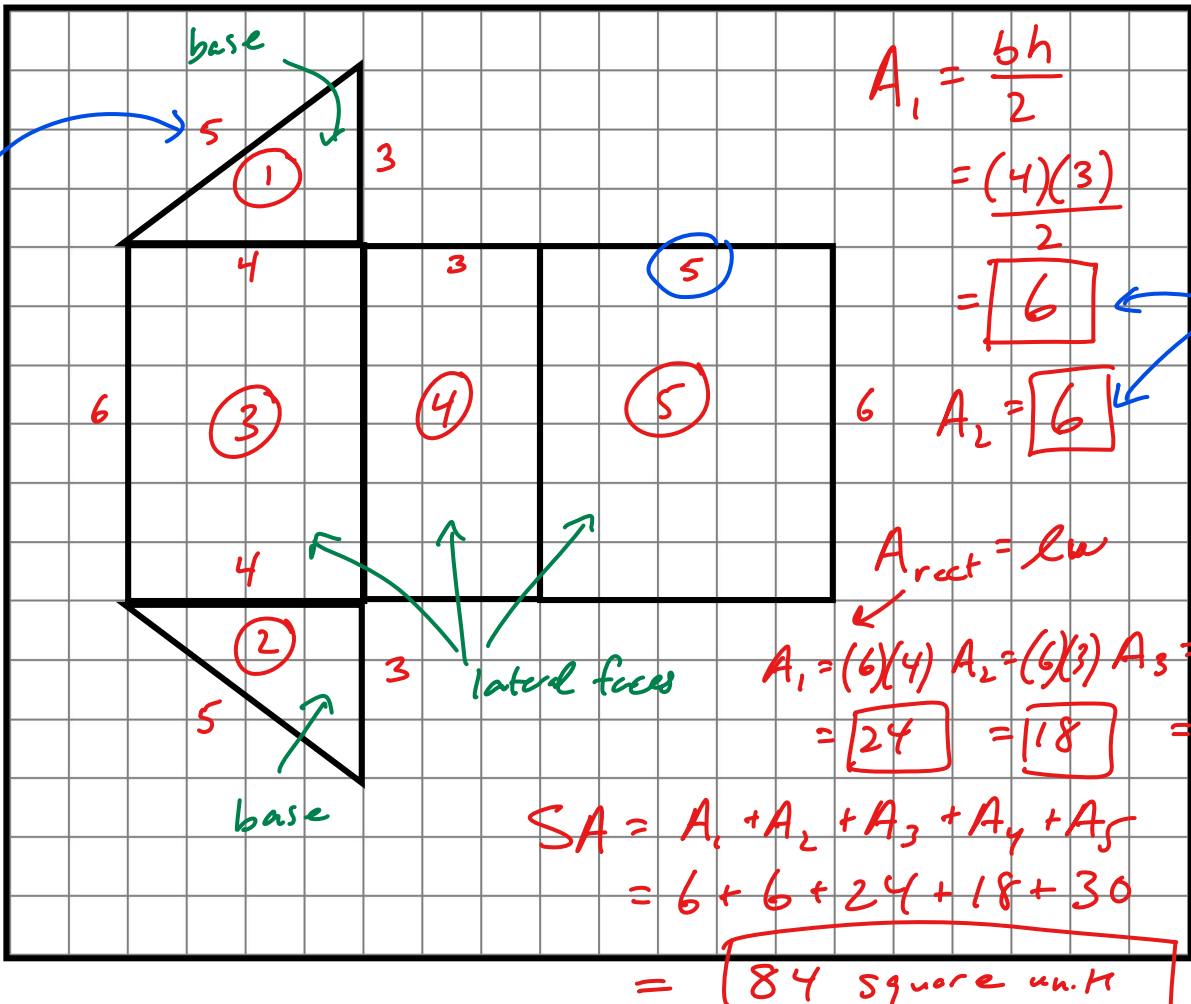


Date: KEY

### 5.3 Surface Area of a Prism

Find the total area of the net shown. Label the measurement for each side.



I know this is 5 because it has to match the length of the lateral face

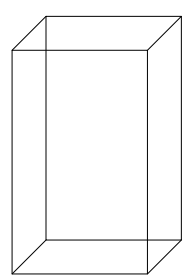
same shape

lateral faces

What shape will this make when it is formed into a 3 dimensional polyhedron?

a triangular prism

object



How many different rectangles would you get if you made a net of this rectangular prism?

6

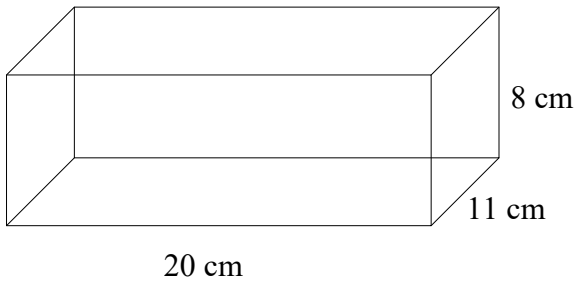
How would you find the area of each rectangle?

Use the formula for the area of a rectangle,

$$A = lw$$

Surface Area is: the sum of the areas of all the faces of an object.

Find the surface area of each shape



- Steps to follow
- i) draw and label each shape that makes up this prism:
  - ii) find the area of each shape
  - iii) add up the areas of each side ~~side~~ **face**

**FRONT**  

$$A = lw$$

$$= (20)(8)$$

$$= 160 \text{ cm}^2$$
**FRONT AND BACK:**  
 $160 \text{ cm}^2 \times 2$   
 $= 320 \text{ cm}^2$

**TOP**  

$$A = lw$$

$$= (20)(11)$$

$$= 220 \text{ cm}^2$$
**TOP & BOTTOM:**  
 $220 \text{ cm}^2 \times 2$   
 $= 440 \text{ cm}^2$

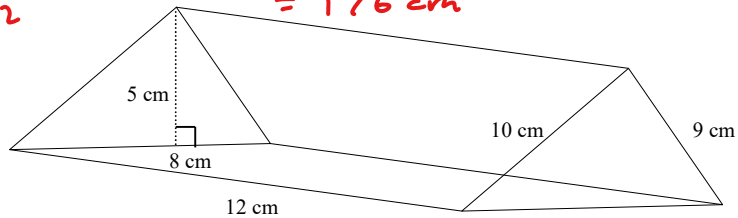
**RIGHT SIDE**  

$$A = lw$$

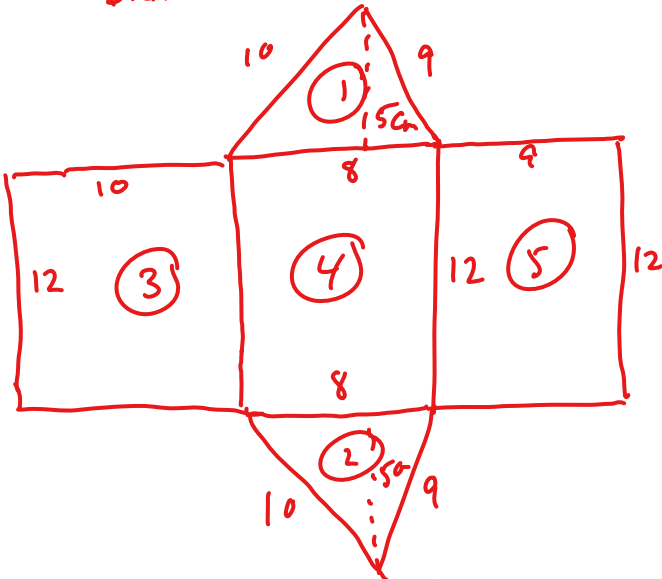
$$= (11)(8)$$

$$= 88 \text{ cm}^2$$
**BOTH SIDES:**  
 $88 \text{ cm}^2 \times 2$   
 $= 176 \text{ cm}^2$

**SA = sum of all faces**  
 $= 320 + 440 + 176$   
**SA = 936 cm<sup>2</sup>**



**DRAW A NET**



$$A_1 = \frac{bh}{2}$$

$$= \frac{(8)(5)}{2}$$

$$= 20 \text{ cm}^2$$

$$A_2 = A_1$$

$$= 20 \text{ cm}^2$$

$$A_3 = lw$$

$$= (12)(10)$$

$$= 120 \text{ cm}^2$$

$$A_4 = lw$$

$$= (12)(8)$$

$$= 96 \text{ cm}^2$$

$$A_5 = lw$$

$$= (12)(9)$$

$$= 108 \text{ cm}^2$$

$$SA = A_1 + A_2 + A_3 + A_4 + A_5$$

$$= 20 + 20 + 120 + 96 + 108$$

$$SA = 364 \text{ cm}^2$$