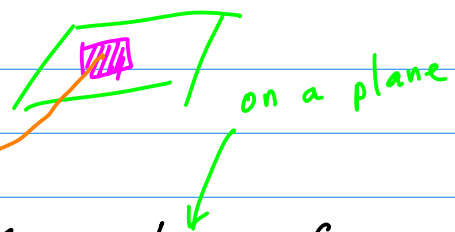


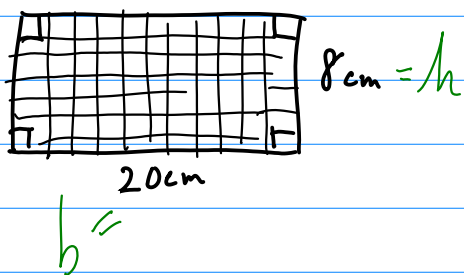
§8.1: Area of Rectangles & □'s



* Area: a measure of the interior of a planar figure in square units.

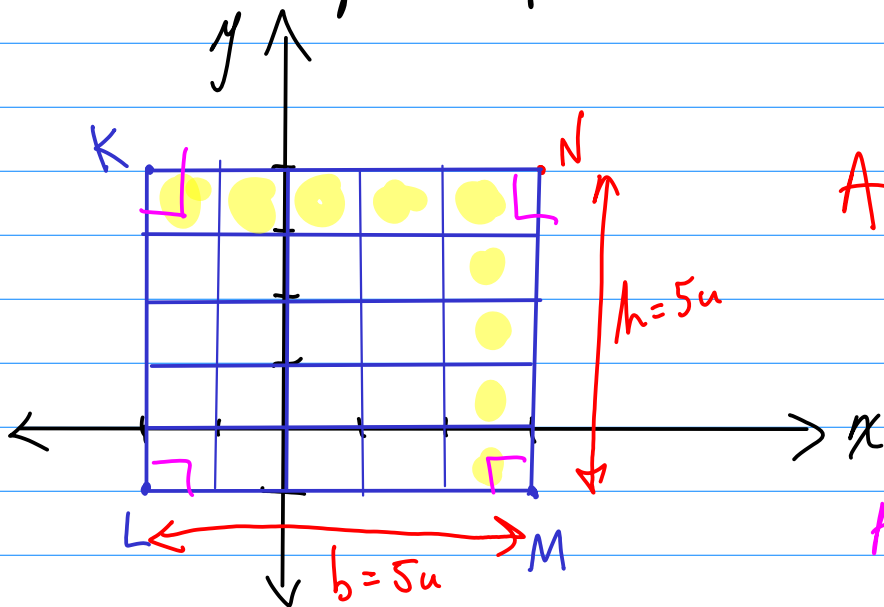
* $A_{\text{RECT}} = b \cdot h$

Ex:



$$\begin{aligned} A_{\text{RECT}} &= b \cdot h \\ &= (20\text{cm})(8\text{cm}) \\ &= 20 \cdot 8 \cdot \text{cm} \cdot \text{cm} \\ &= 160\text{cm}^2 \\ &= 160 \text{ sq. cm} \end{aligned}$$

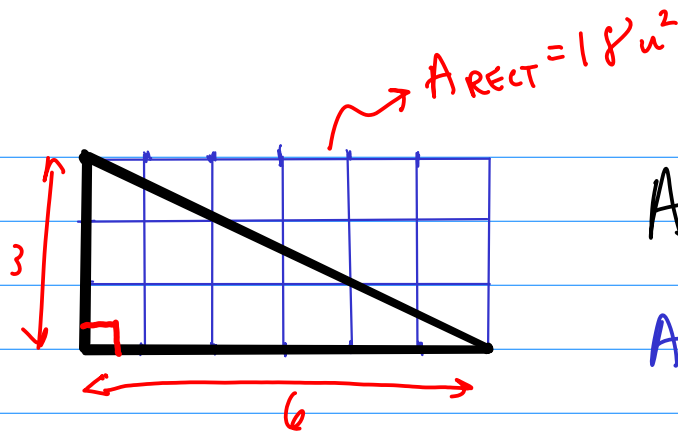
Ex: Square KLMN has vertices $K(-2, 4)$, $L(-2, -1)$, & $M(3, -1)$. Find the area of the square.



$$\begin{aligned} A_{\text{RECT}} &= b \cdot h \\ &= (5u)(5u) \\ &= 25u^2 \end{aligned}$$

$$\begin{aligned} A_{\text{square}} &= s^2 \\ &= (5u)^2 \\ &= 25u^2 \end{aligned}$$

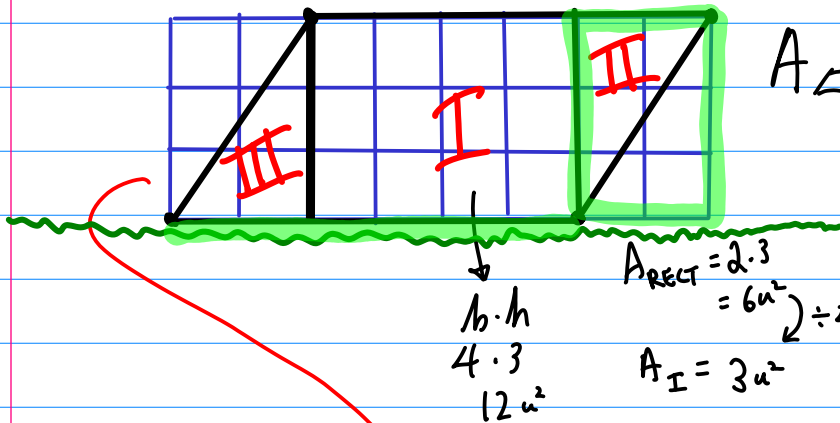
Ex:



$$A_{RT\Delta} = ?$$

$$\begin{aligned} A_{RT\Delta} &= \frac{1}{2} \cdot A_{RECT} \\ &= \frac{1}{2} (18u^2) \\ &= 9u^2 \end{aligned}$$

Ex: Area of a \square :



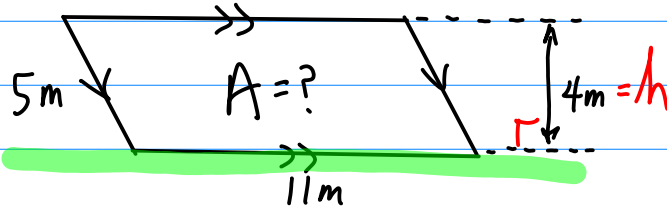
$$\begin{aligned} A_{\square} &= A_I + A_{II} + A_{III} \\ &= 12u^2 + 3u^2 + 3u^2 \\ &= \boxed{18u^2} \end{aligned}$$

$$\begin{aligned} b \cdot h &= 4 \cdot 3 = 12u^2 \\ A_{RECT} &= 2 \cdot 3 = 6u^2 \\ A_I &= 3u^2 \end{aligned}$$

* $A_{\square} = b \cdot h$

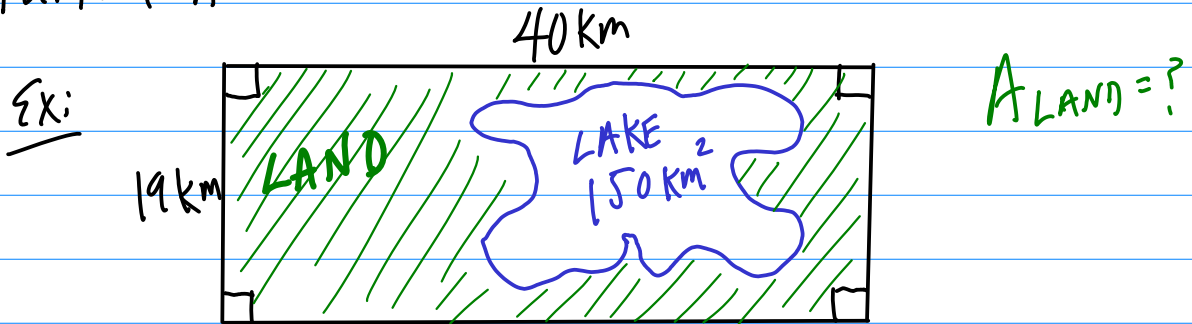
$$\begin{aligned} A_{\square} &= b \cdot h \\ &= (6u)(3u) \\ &= \boxed{18u^2} \end{aligned}$$

Ex:



$$\begin{aligned} A_{\square} &= b \cdot h \\ &= (11m)(4m) \\ &= \boxed{44m^2} \end{aligned}$$

- Partial Area: $A_{BIG} - A_{SMALL}$



$$A_{LAND} = A_{RECT} - A_{LAKE}$$

$$40 \cdot 19 = 760$$

$$40 \cdot 20 = 800$$

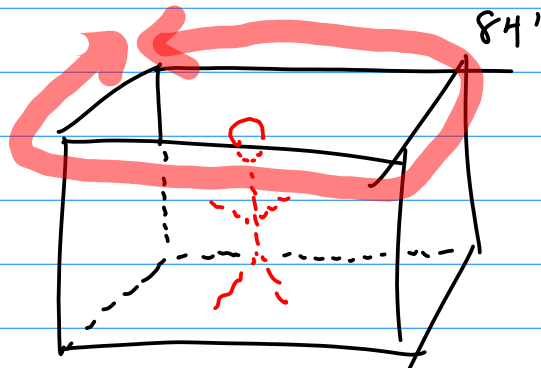
$$= (40 \text{ km})(19 \text{ km}) - 150 \text{ km}^2$$

$$= 760 \text{ km}^2 - 150 \text{ km}^2$$

$$= \boxed{610 \text{ km}^2}$$

- Painting Walls:

A can of paint can cover 350 sq ft of wall. How many cans of paint are needed to paint a room with a perimeter of 84'? (Assume ceiling is 8' high.)



$$\frac{1 \text{ can} = 350 \text{ ft}^2}{x} = \frac{692 \text{ ft}^2}{350}$$

$$x \cdot 350 = \frac{692 \text{ cans}}{350}$$

$$x = 1.98 \approx \text{2 cans}$$

