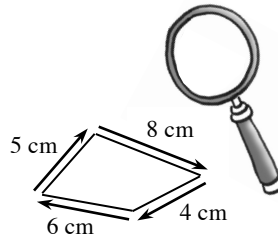


# MATH NOTES

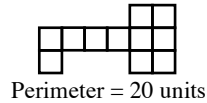
## PERIMETER AND AREA

The **perimeter** of a shape is the total length of the boundary (around the shape) that encloses the interior (inside) region on a flat surface. See the examples at right.

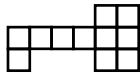


$$\begin{aligned} \text{Perimeter} &= \\ 5 + 8 + 4 + 6 &= 23 \text{ cm} \end{aligned}$$

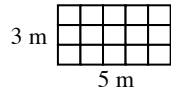
**Area** is a measure of the number of square units needed to cover a region on a flat surface. See the examples below.



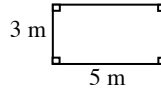
$$\text{Perimeter} = 20 \text{ units}$$



$$\text{Area} = 11 \text{ sq. units}$$



$$\begin{aligned} 3 \text{ m} & \\ \text{or} & \\ 5 \text{ m} & \end{aligned}$$

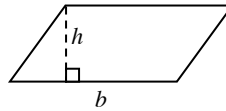


$$\text{Area} = 5 \cdot 3 = 15 \text{ m}^2 \text{ (square meters)}$$

The **area of a rectangle** is found by multiplying the lengths of the base and height. See the examples above right.

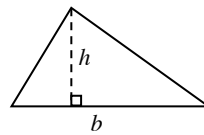
$$A = b \cdot h$$

The **area of a parallelogram** is equal to the area of a rectangle with the same base and height. If the base of the parallelogram is length  $b$  and the height is length  $h$ , then the area of the parallelogram is:



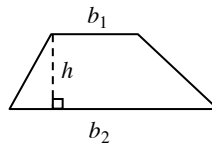
$$A = b \cdot h$$

The **area of a triangle** is half the area of a parallelogram with the same base and height. If the base of the triangle is length  $b$  and the height length  $h$ , then the area of the triangle is:



$$A = \frac{1}{2} b \cdot h$$

Finally, the **area of a trapezoid** is found by averaging the two bases and multiplying by the height. If the trapezoid has bases  $b_1$  and  $b_2$  and height  $h$ , then the area is:



$$A = \frac{1}{2} (b_1 + b_2)h$$

Notes: