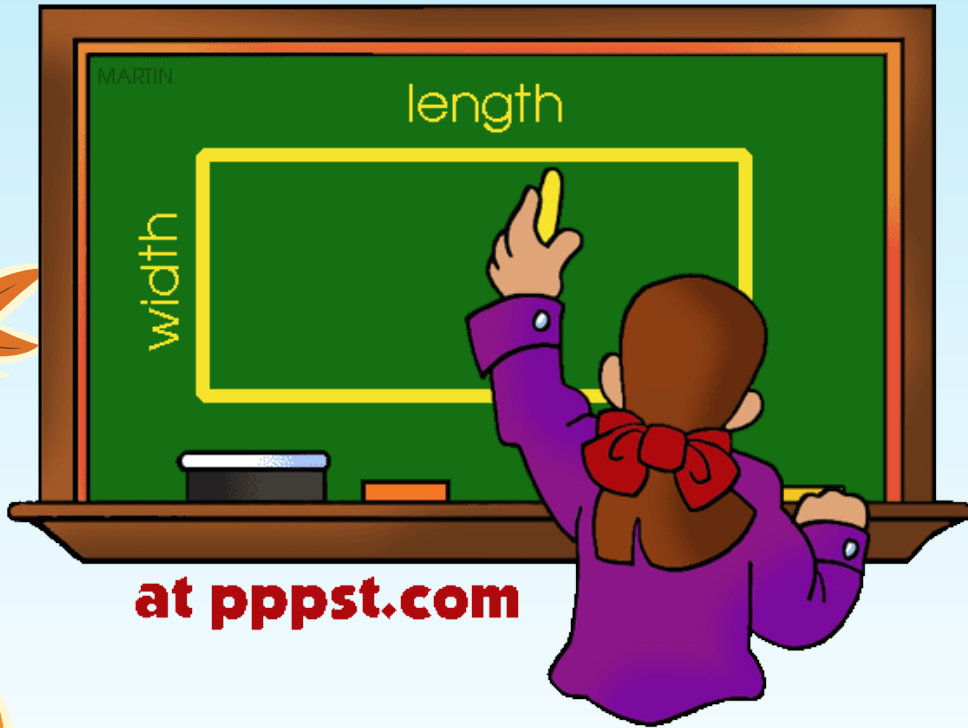


Area and Perimeter



AREA and PERIMETER

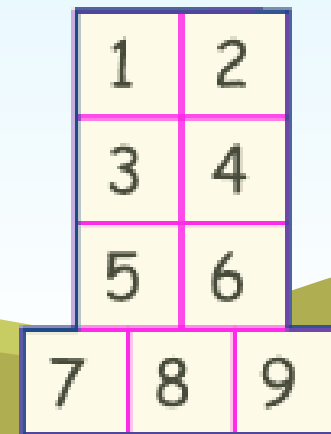
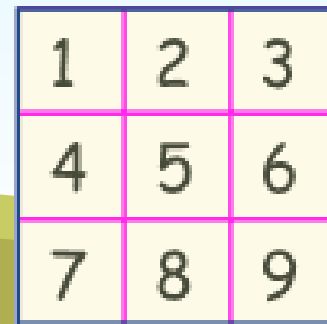


What is Area?

- Area is the size of a surface

Example:

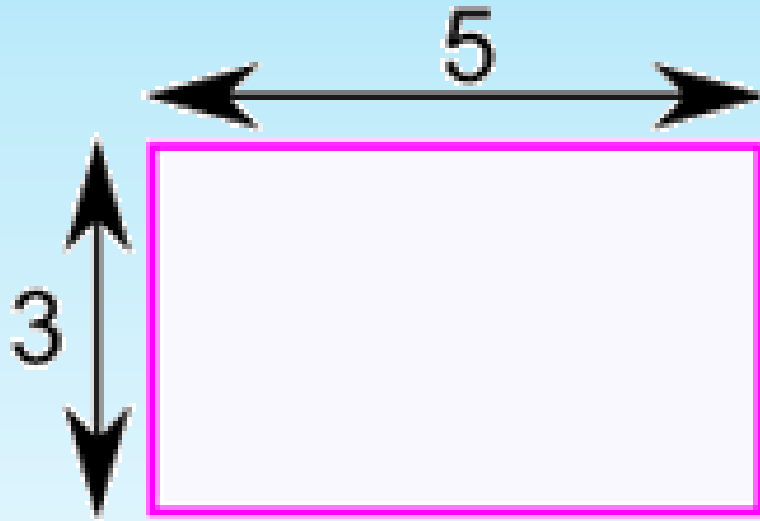
These shapes all have the same area of 9:



Area of Simple Shapes



Example: What is the area of this rectangle?



The formula is:

$$\text{Area} = w \times h$$

w = width

h = height

The width is 5, and the height is 3, so we know

$w = 5$ and $h = 3$:

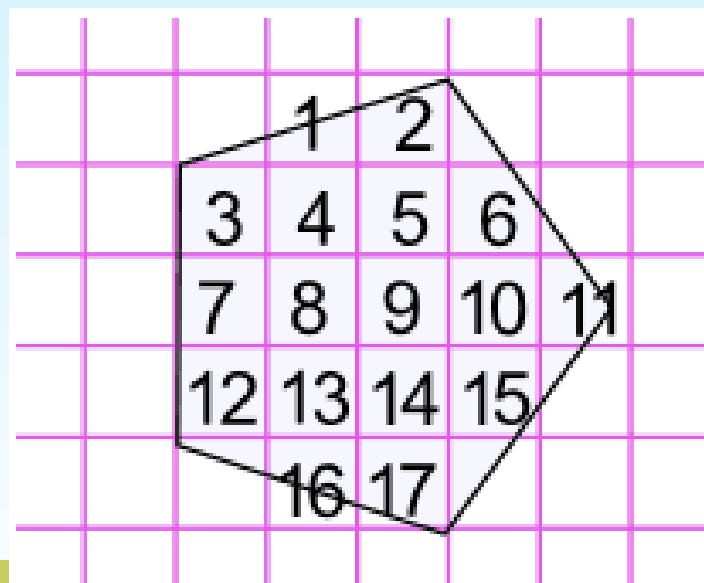
$$\text{Area} = 5 \times 3 = 15$$

• Sometimes the squares don't match the shape exactly, but we can get an "approximate" answer.

• ONE WAY IS:

- more than half a square counts as 1
- less than half a square counts as 0

• Like this:

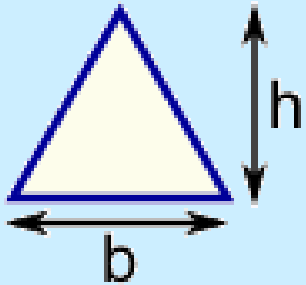


• This pentagon has an area of approximately 17

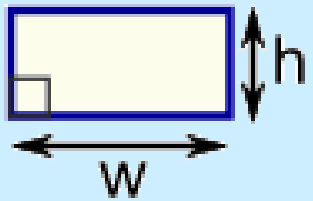
Area of a plane Shape



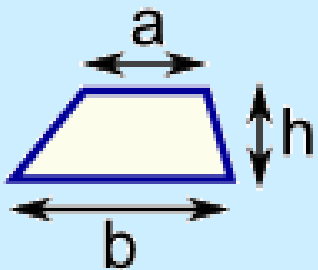
- Area is the size of a surface



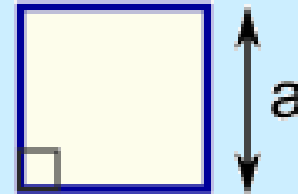
Triangle
Area = $\frac{1}{2} \times b \times h$
b = base
h = vertical height



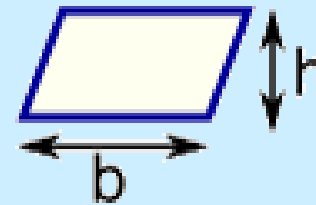
Rectangle
Area = $w \times h$
w = width
h = height



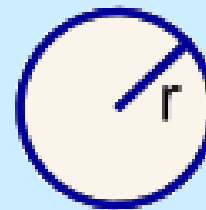
Trapezoid (US)
Trapezium (UK)
Area = $\frac{1}{2}(a+b) \times h$
h = vertical height



Square
Area = a^2
a = length of side



Parallelogram
Area = $b \times h$
b = base
h = vertical height

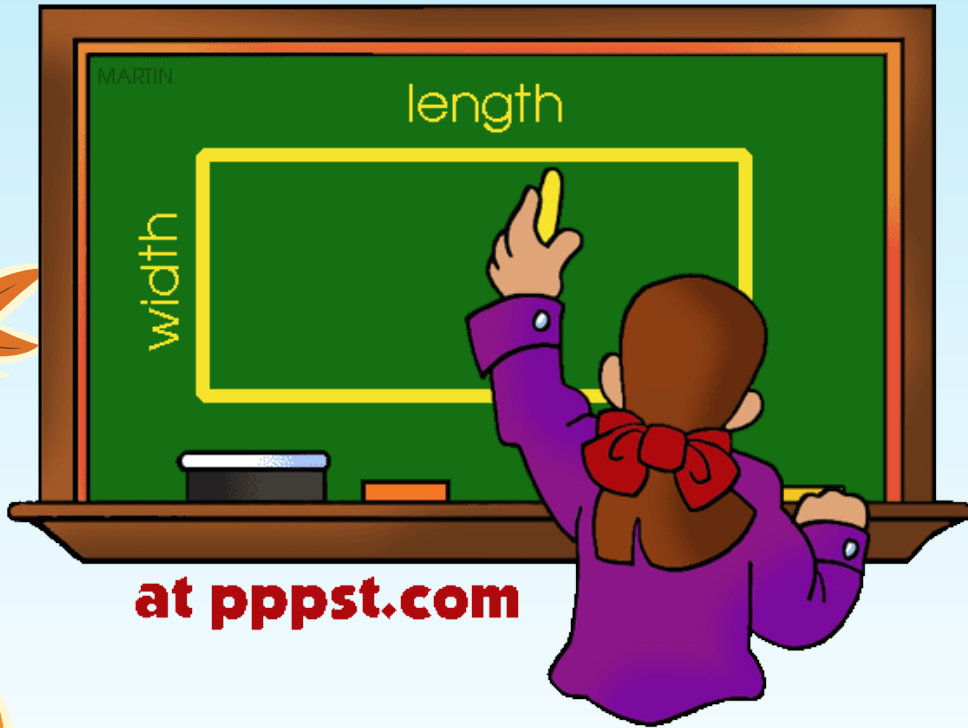


Circle
Area = $\pi \times r^2$
Circumference = $2 \times \pi$
 $\times r$
r = radius

Perimeter



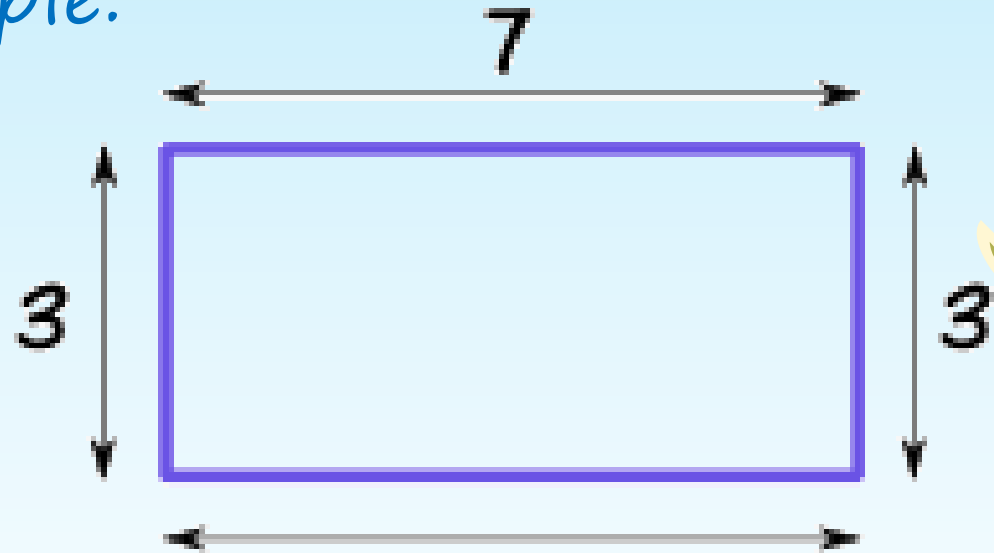
AREA and PERIMETER



What is Perimeter?

- Perimeter is the distance around a two-dimensional shape.

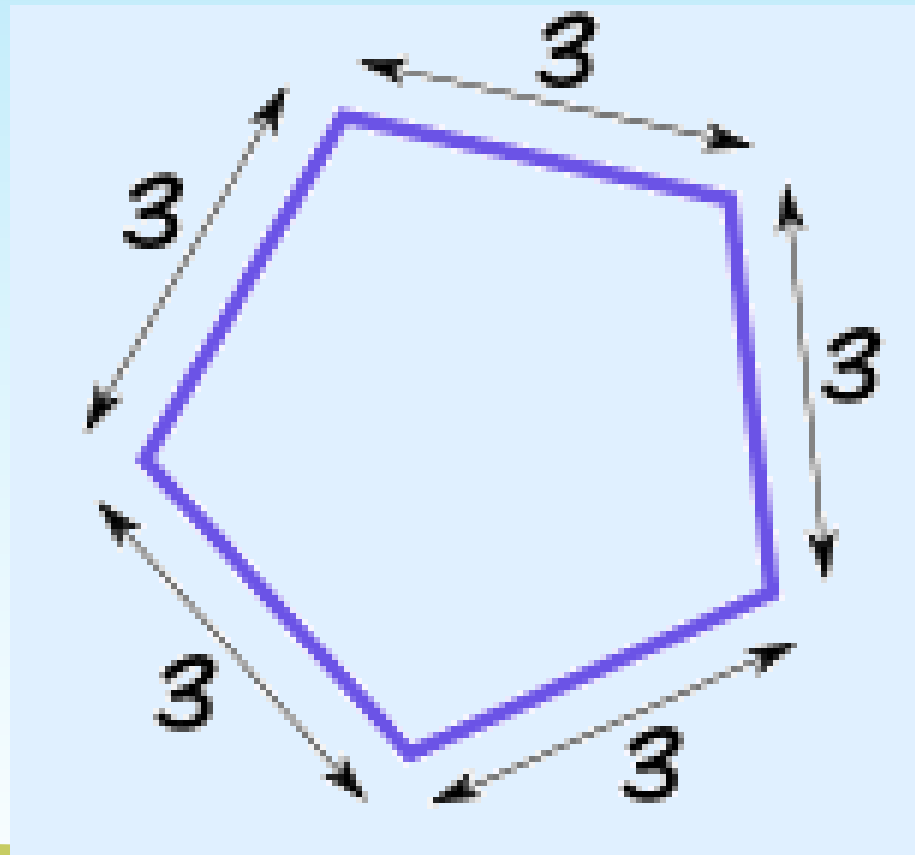
Example:



the perimeter of this rectangle is $7 + 3 + 7 + 3 = 20$

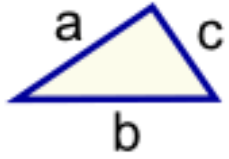
• Example: the perimeter of this regular pentagon is

• $3+3+3+3+3 = 5 \times 3 = 15$



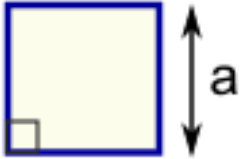
Perimeter formulas





Triangle

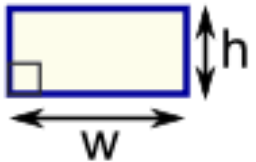
$$\text{Perimeter} = a + b + c$$



Square

$$\text{Perimeter} = 4 \times a$$

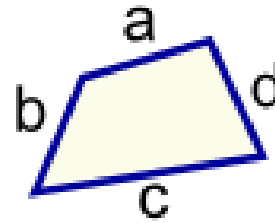
a = length of side



Rectangle

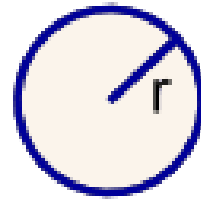
$$\text{Perimeter} = 2 \times (w + h)$$

w = width
h = height



Quadrilateral

$$\text{Perimeter} = a + b + c + d$$




Circle

$$\text{Circumference} = 2\pi r$$

r = radius



Lear more at:

- <https://www.mathsisfun.com/geometry/perimeter.html>
 - <https://www.mathsisfun.com/geometry/area.html>
 - <http://www.mathplayground.com/PartyDesigner/PartyDesigner.html>
- 
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