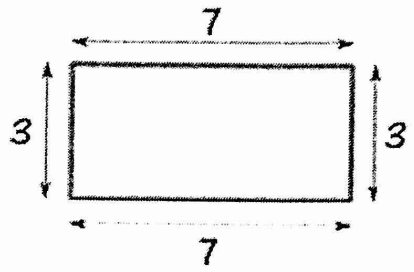
Perimeter

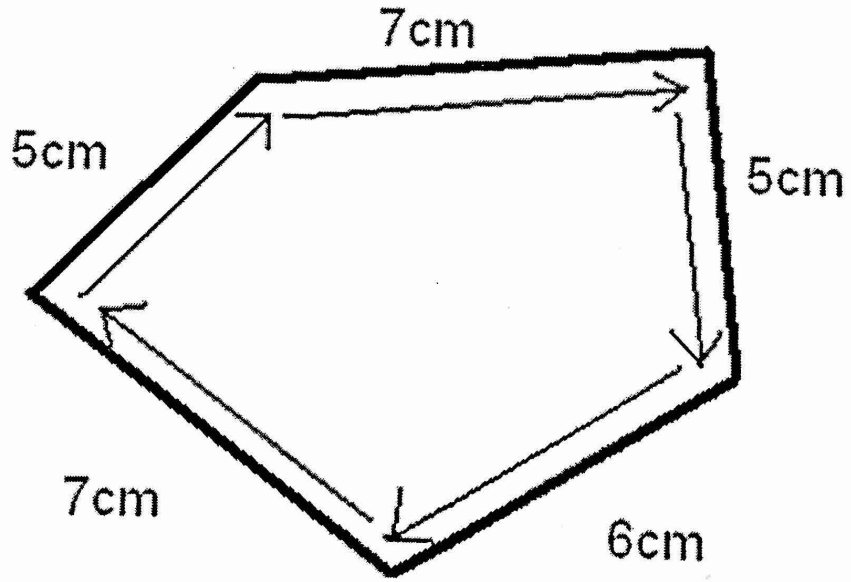
Perimeter is the distance around a two-dimensional shape.

Example: the perimeter of this rectangle is **7+3+7+3 = 20**



Perimeter

The distance around an object

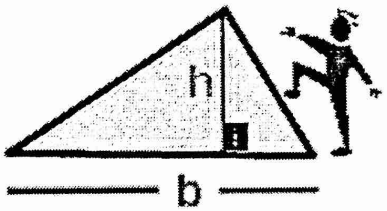
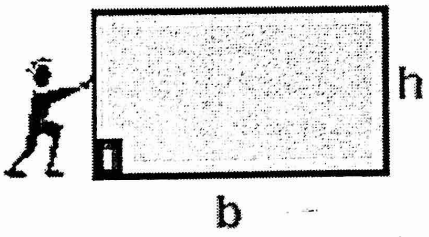
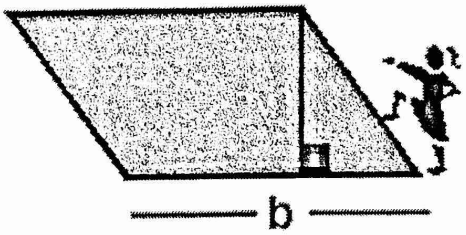


Perimeter = 5cm + 7cm + 5cm + 6cm + 7cm = 30cm

Area Formulas

Note: "ab" means "a" multiplied by "b". "a^2" means "a squared", which is the same as "a" times "a".

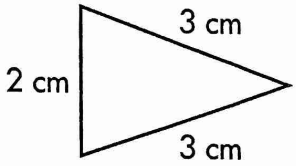
Be careful!! Units count.

	***Area (triangle)*** $A = \frac{1}{2}bh$
	***Area (rectangle)*** $A = bh$ **or** *Area (rectangle) = (length)•(width)*
	***Area (parallelogram)*** $A = bh$

Lesson 8.11 Perimeter

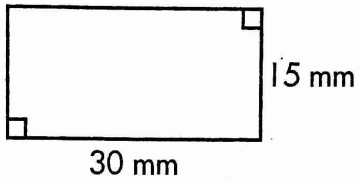
The **perimeter** of a figure is the distance around it.

When all side lengths are known, you can just add them.



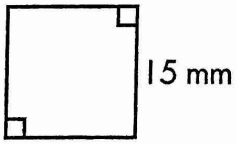
$P = s + s + s = 2 + 3 + 3$
$P = 8$ cm

When you know that certain sides are equal, you can calculate missing side lengths.



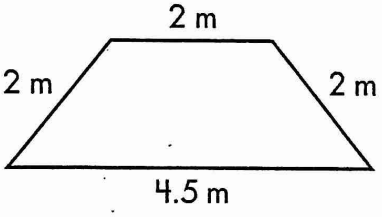
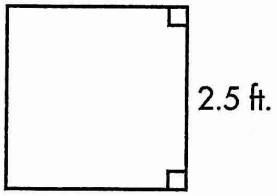
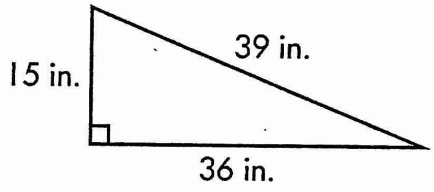
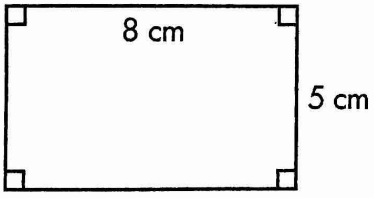
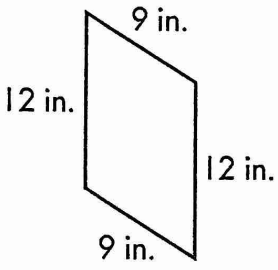
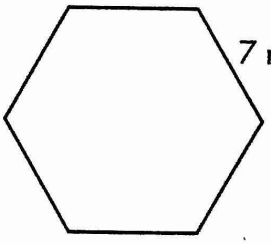
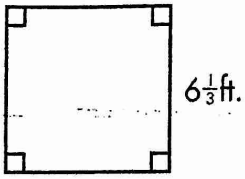
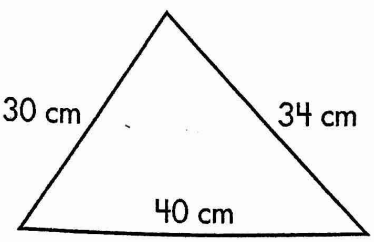
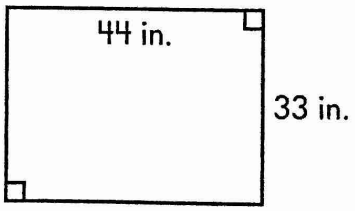
$P = 2\ell + 2W$ or $2(\ell + W)$
$P = 2(15 + 30)$
$P = 90$ mm

If a polygon is **regular**, meaning that all sides are equal in length, you can multiply the length of one side by the number of sides.



$P = 4s$ $P = 4 \times 15 = 60$ mm

Find the perimeter of each figure. Unless shown otherwise, assume each figure is regular.

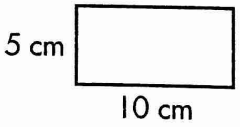
	a	b	c
1.	 _____ m	 _____ ft.	 _____ in.
2.	 _____ cm	 _____ in.	 _____ m
3.	 _____ ft.	 _____ cm	 _____ in.

NAME _____

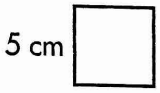
Lesson 8.2 Area of a Rectangle

The **area** of a figure is the number of square units inside that figure. Area is expressed in **square units** or **units²**.

The area of a rectangle is the product of its length and its width.

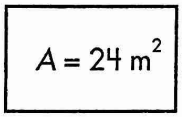


$A = \ell \times w$
$A = 5 \times 10 = 50 \text{ cm}^2$



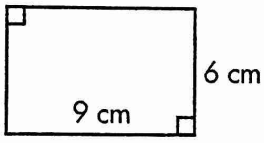
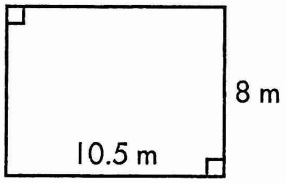
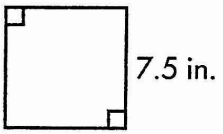
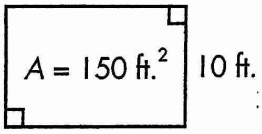
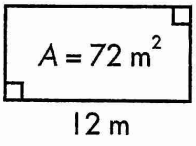
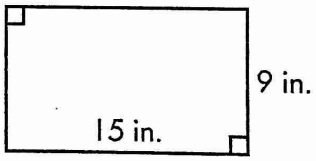
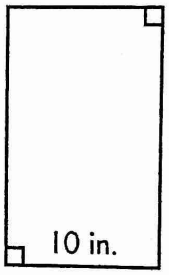
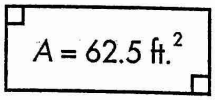
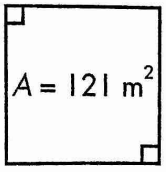
$A = 5 \times 5$
$A = 5 \times 5 \text{ or } 5^2$
$A = 25 \text{ cm}^2$

If you know the area of a rectangle and either its length or its width, you can determine the unknown measure.



$A = \ell \times w$
$24 = 6 \times w$
$\frac{24}{6} = \frac{6w}{6}$ $4 = w$
The width is 4 meters.

Find the unknown measure for each rectangle below.

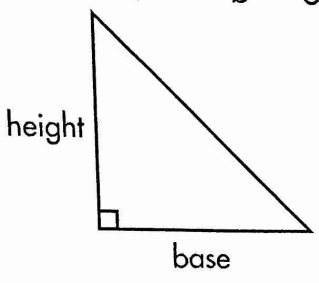
	a	b	c
1.	 area = _____ cm^2	 area = _____ m^2	 area = _____ in.^2
2.	 length = _____ ft.	 width = _____ m	 area = _____ in.^2
3.	 area = _____ in.^2	 length = _____ ft.	 side = _____ m

NAME _____

Lesson 8.3 Area of a Triangle

To find the area of a triangle, find $\frac{1}{2}$ the product of the measure of its base and its height.

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



$b = 6$ in. and $h = 8$ in.

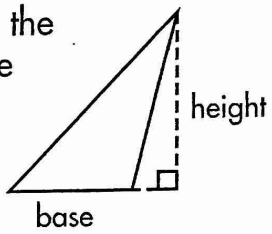
Find A.

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

$A = \frac{1}{2} \times 6 \times 8$

$A = 24$ in.^{2}

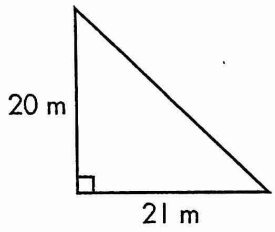
The height is the distance from the base to the highest point on the triangle, using a line perpendicular to the base.



Find the area of each triangle.

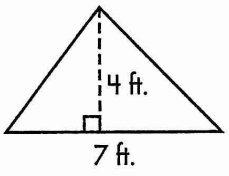
1.

a



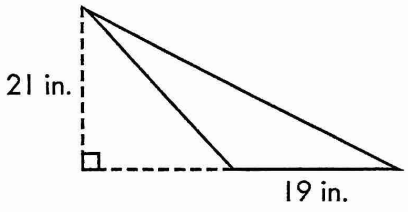
area = _____ m^2

b



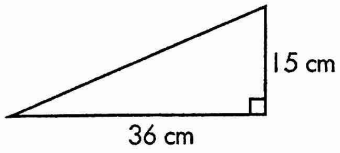
area = _____ ft.^{2}

c

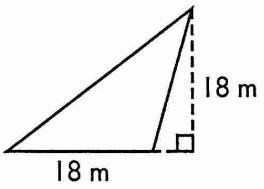


area = _____ in.^{2}

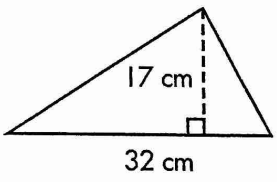
2.



area = _____ cm^2

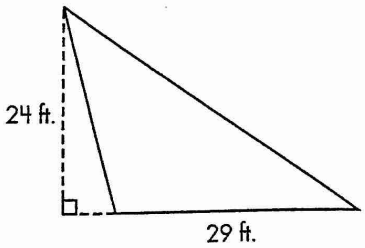


area = _____ m^2

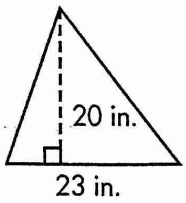


area = _____ cm^2

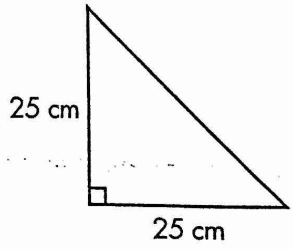
3.



area = _____ ft.^{2}



area = _____ in.^{2}

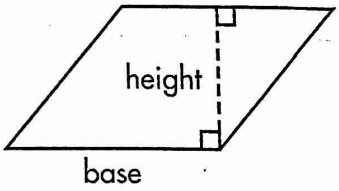


area = _____ cm^2

NAME _____

Lesson 8.6 Area of a Parallelogram

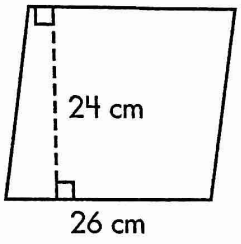
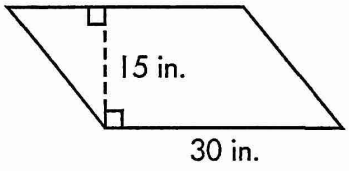
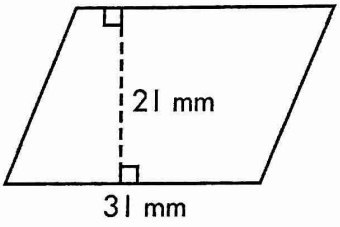
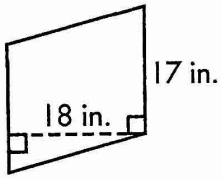
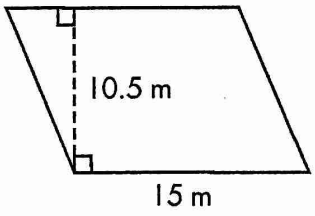
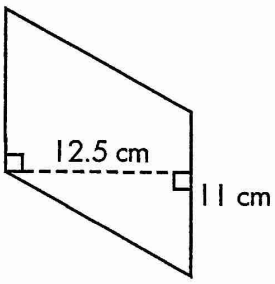
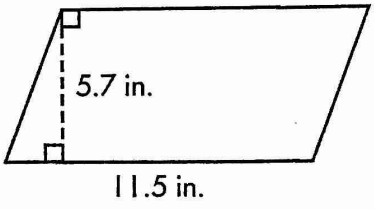
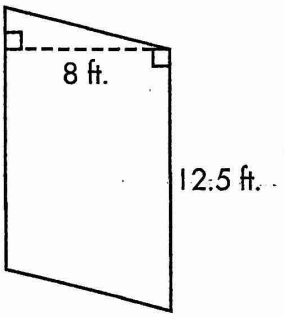
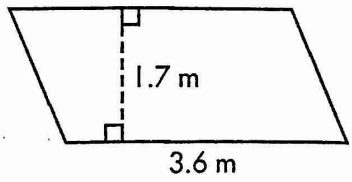
A parallelogram is a polygon with 2 sets of parallel sides. To find the **area** of a parallelogram, multiply the measure of its base by the measure of its height: $A = b \times h$ or $A = bh$.



$b = 8$ in. and $h = 7$ in. What is A?

$A = b \times h$ $A = 8 \times 7 = 56$ in.^{2} or 56 square inches.

Find the area of each parallelogram.

	a	b	c
1.			
	area = _____ cm^2	area = _____ in.^{2}	area = _____ mm^2
2.			
	area = _____ in.^{2}	area = _____ m^2	area = _____ cm^2
3.			
	area = _____ in.^{2}	area = _____ ft.^{2}	area = _____ m^2