

Unit 5 - Vocabulary

Term	Definition and/or Picture-Example
Area	
Base (of a triangle)	
Base (of a 3D figure)	
Congruent	
Cubic Units	
Edge	
Equilateral Triangle	

Term	Definition and/or Picture-Example
Face	
Isosceles Triangle	
Lateral Faces	
Net	
Parallel	
Parallelogram	
Perpendicular	

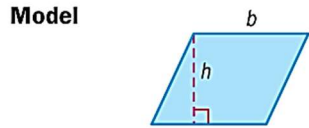
Term	Definition and/or Picture-Example
Polygon	
Regular Polygon	
Polyhedron	
Prism	
Pyramid	
Quadrilateral	
Rectangle	
Rectangular Prism	

Term	Definition and/or Picture-Example
Rhombus	
Right Triangle	
Scalene Triangle	
Square	
Surface Area	
Trapezoid	
Vertex (vertices)	
Volume	

Area of Parallelograms

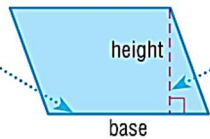
Area of a Parallelogram

Words The area A of a parallelogram is the product of its base b and its height h .



Symbols $A = bh$

The **base** of a parallelogram can be any one of its sides.

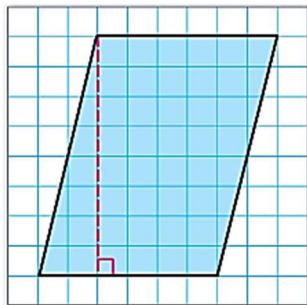


The **height** is the perpendicular distance from the base to the opposite side.

Parallelograms include special quadrilaterals, such as rectangles, squares, and rhombi.

Examples:

Find the area of the parallelogram.



The base is 6 units, and the height is 8 units.

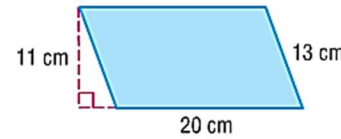
$A = bh$ Area of parallelogram

$A = 6 \cdot 8$ Replace b with 6 and h with 8.

$A = 48$ Multiply.

The area is 48 square units or 48 units².

Find the area of the parallelogram.



Estimate $A \approx 20 \cdot 10$ or 200 cm^2

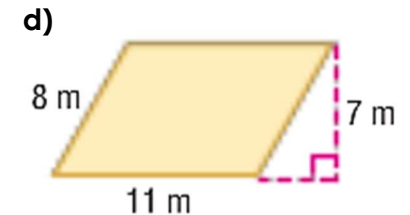
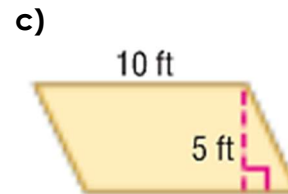
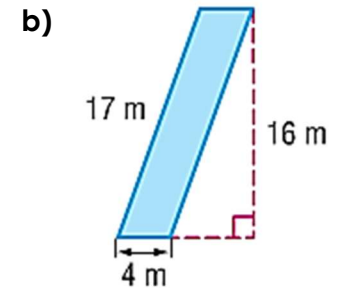
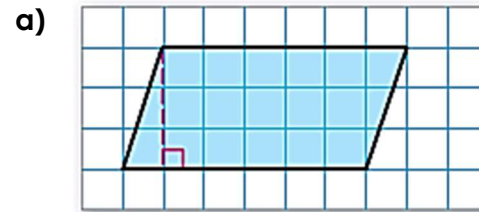
$A = bh$ Area of parallelogram

$A = 20 \cdot 11$ Replace b with 20 and h with 11.

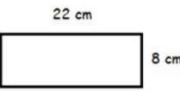
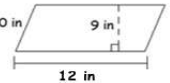
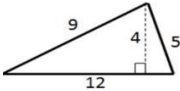
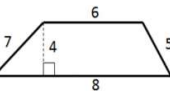
$A = 220$ Check for Reasonableness $220 \approx 200$ ✓

The area is 220 square centimeters or 220 cm^2 .

You Try:

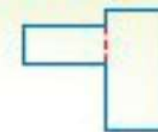


Additional Practice with Area

Name of Polygon				
Picture				
Write the formula				
Substitute for the variables (Show work)				
Solve. Include square units in your answer.				

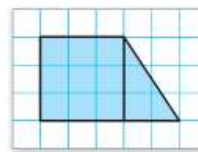
Area of Composite Figures

A **composite figure** is a figure made of two or more two-dimensional figures. The composite figure shown to the right is made of two rectangles.



Find the Area of a Composite Figure

You can decompose some trapezoids into a square and a triangle to find the area.



Area of Square

$$A = \ell \cdot w$$

$$A = 3 \cdot 3, \text{ or } 9$$

Area of Triangle

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(2)(3), \text{ or } 3$$

Then add the area of the square and the area of the triangle to find the area of the trapezoid. The area of the trapezoid is $9 + 3$ or 12 square units.

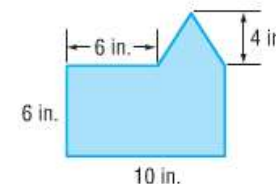
You can find the area of a composite figure using the same strategy. To find the area of a composite figure, separate it into figures with areas you know how to find. Then add those areas.

Example

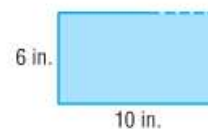


1. Find the area of the figure at the right.

The figure can be separated into a rectangle and a triangle. Find the area of each.



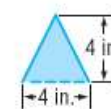
Area of Rectangle



$$A = \ell w$$

$$A = 10 \cdot 6 \text{ or } 60$$

Area of Triangle



$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(4)(4) \text{ or } 8$$

The base of the triangle is $10 - 6$ or 4 inches.

The area is $60 + 8$ or 68 square inches.