

Geometry

Chapter 10

Section 10-1

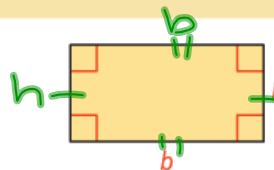
Area of a Rectangle

Take note

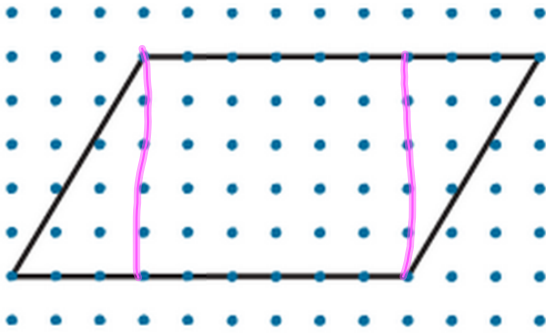
Theorem 10-1 Area of a Rectangle

The area of a rectangle is the product of its base and height.

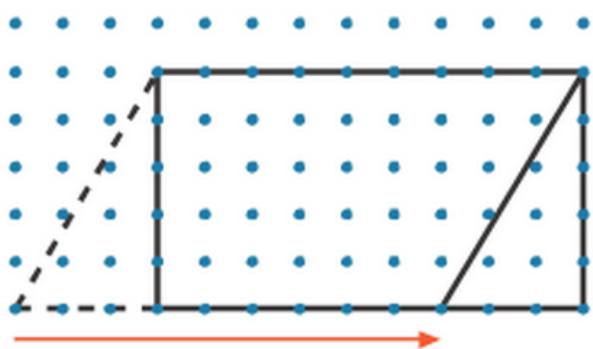
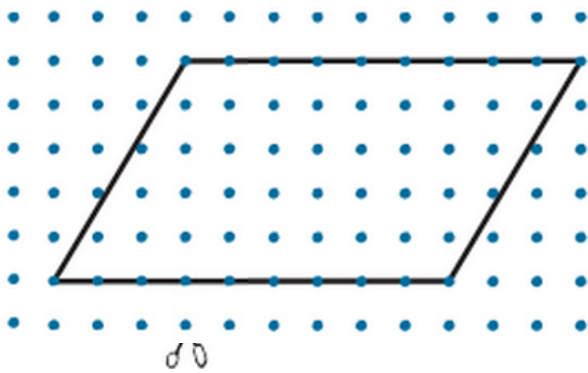
$$A = bh$$



Area of a Parallelogram



Area of a Parallelogram



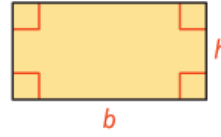
Areas of Rectangles and Parallelograms

Take note

Theorem 10-1 Area of a Rectangle

The area of a rectangle is the product of its base and height.

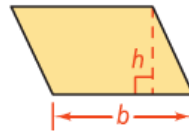
$$A = bh$$



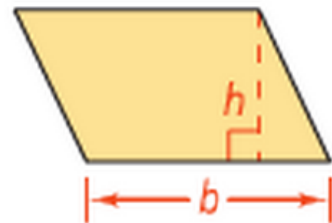
Theorem 10-2 Area of a Parallelogram

The area of a parallelogram is the product of a base and the corresponding height.

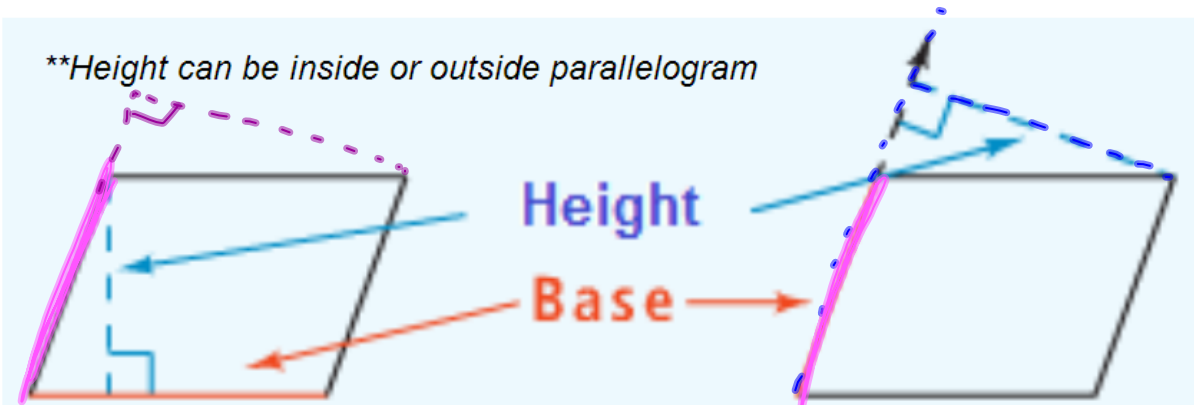
$$A = bh$$



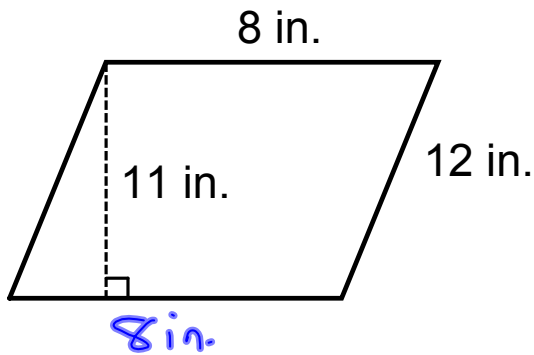
Parallelogram:
Area = base · height



**Height can be inside or outside parallelogram



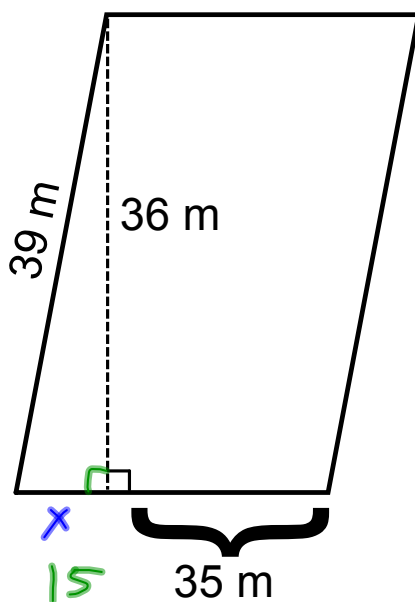
Find the area of the parallelogram.



$$A = 8 \cdot 11$$

$$A = 88 \text{ in}^2$$

Find the area of the parallelogram.



$$x^2 + 36^2 = 39^2$$

$$x^2 + 1296 = 1521$$

$$\begin{array}{r} -1296 \\ -1296 \end{array}$$

$$\sqrt{x^2} = \sqrt{225}$$

$$x = 15$$

$$A = (15 + 35) \cdot 36$$

$$A = 50 \cdot 36$$

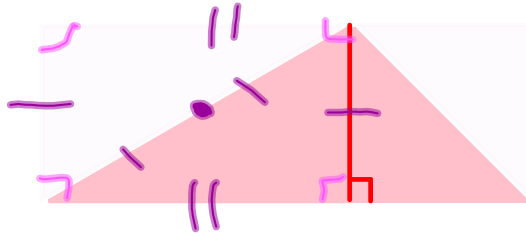
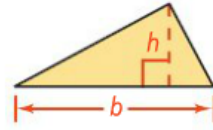
$$A = 1800 \text{ m}^2$$

take note

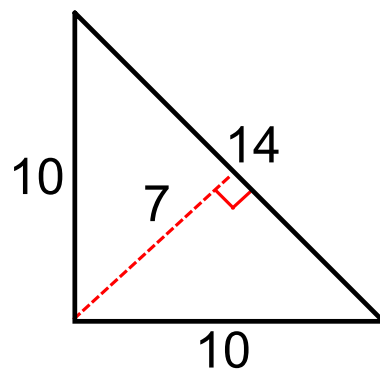
Theorem 10-3 Area of a Triangle

The area of a triangle is half the product of a base and the corresponding height.

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



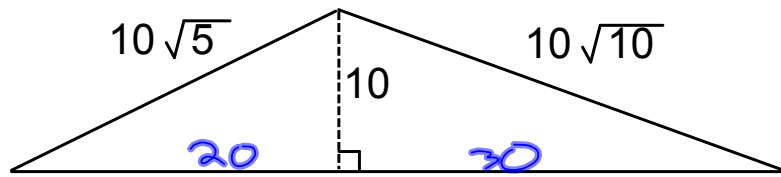
Find the area of the triangle.



$$A = \frac{1}{2} \cdot 14 \cdot 7$$

$$A = 49 \text{ units}^2$$

Find the area of the triangle.



$$x^2 + 10^2 = (10\sqrt{5})^2$$

$$x^2 + 100 = 10^2 \cdot 5^2 = 500$$

$$\sqrt{x^2} = \sqrt{400}$$

$$x = 20$$

$$y^2 + 10^2 = (10\sqrt{10})^2$$

$$y^2 + 100 = 100 \cdot 10 = 1000$$

$$\sqrt{y^2} = \sqrt{900}$$

$$y = 30$$

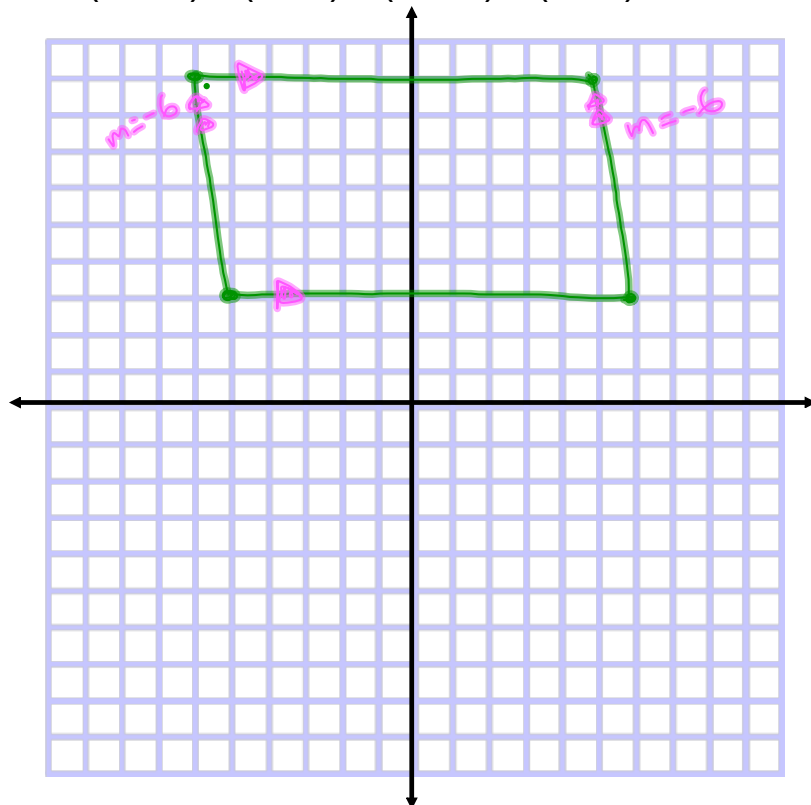
$$A = \frac{1}{2}(50)(10)$$

$$A = 250 \text{ unit}^2$$

Find the area of the shape made by connecting the coordinates $(-5, 3)$, $(6, 3)$, $(-6, 9)$, $(5, 9)$.

$$A = 11 \cdot 6$$

$$A = 66 \text{ units}^2$$

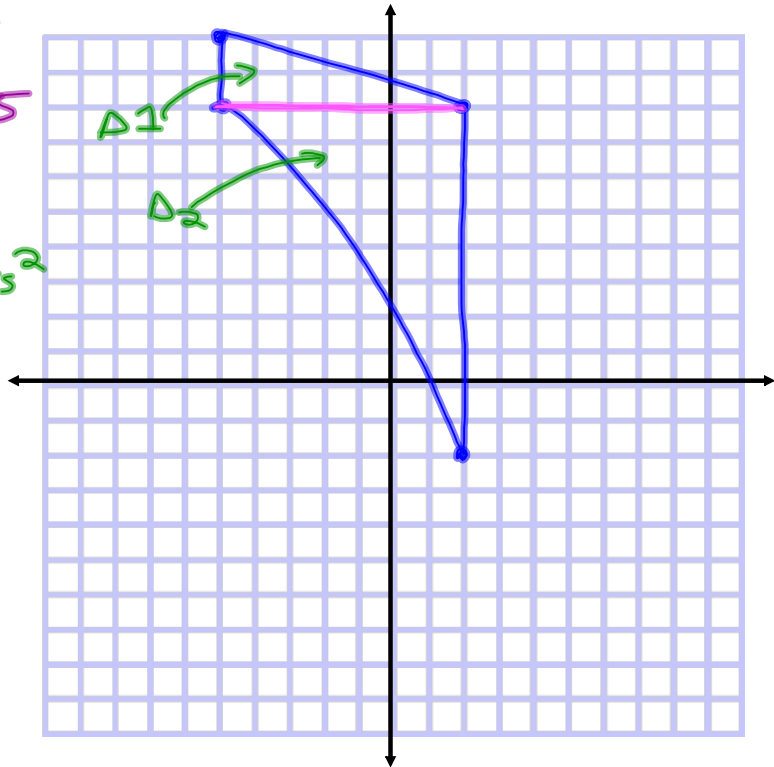


Find the area of the shape made by connecting the coordinates $(-5, 8)$, $(-5, 10)$, $(2, 8)$, $(2, -2)$.

$$A_1 = \frac{1}{2} \cdot 7 \cdot 2 = 7$$

$$A_2 = \frac{1}{2} \cdot 7 \cdot 10 = 35$$

$$A = 7 + 35 = 42 \text{ units}^2$$

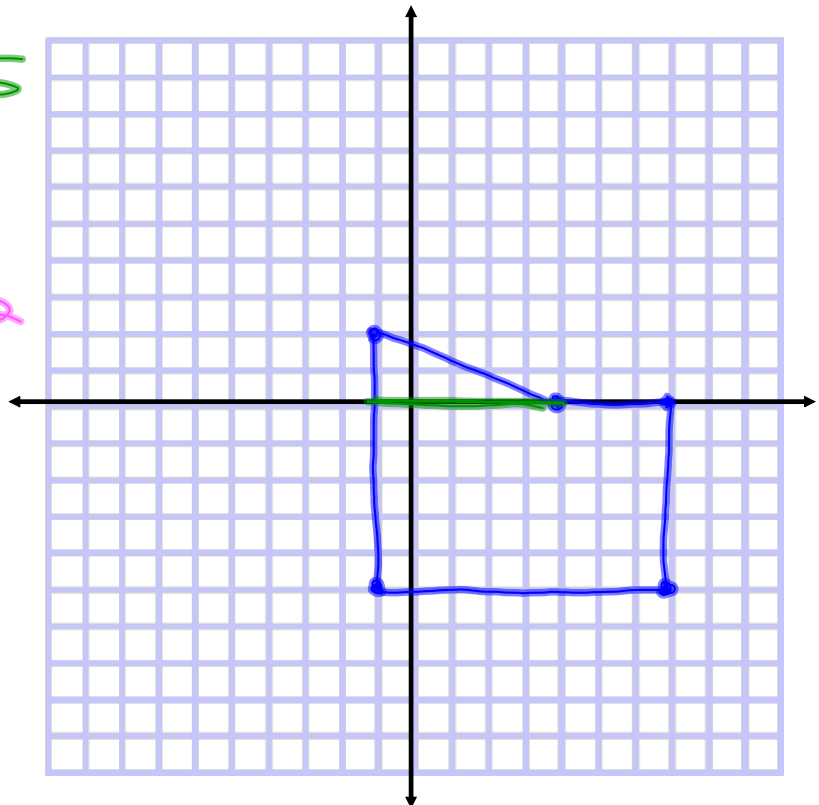


Find the area of the shape made by connecting the coordinates $(-1, -5)$, $(-1, 2)$, $(4, 0)$, $(7, 0)$, $(7, -5)$.

$$A_{\Delta} = \frac{1}{2} \cdot 5 \cdot 2 = 5$$

$$A_{\square} = 8 \cdot 5 = 40$$

$$A = 45 \text{ units}^2$$



Homework

Pages 619 - 620

8 - 16 all, 25 - 35 odd, 37 - 43 all