Name:_____Per:____

Warm-up

10-1 Area of Rectangles/Parallelograms/Triangles

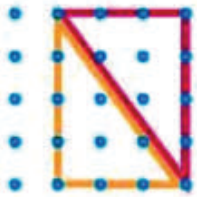
Find the area of each figure.

1. a square with 5-cm sides

2. a rectangle with base 4 in. and height 7 in.

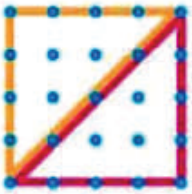
Each rectangle is divided into two congruent triangles. Find the area of each triangle.

3.



4.

5.

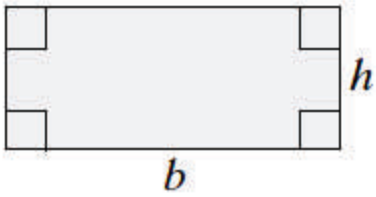


Notes

Area of a Rectangle

The area of a rectangle is the product of its [ ] and [ ].

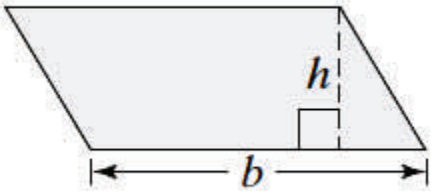
$A =$ [ ]



Area of a Parallelogram

The area of a parallelogram is the product of a [ ] and the corresponding [ ].

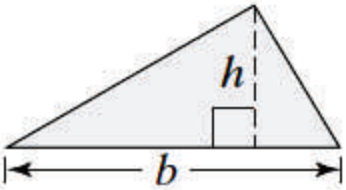
$A =$ [ ]



Area of a Triangle

The area of a triangle is [ ] the product of a [ ] and the corresponding [ ].

$A =$ [ ]

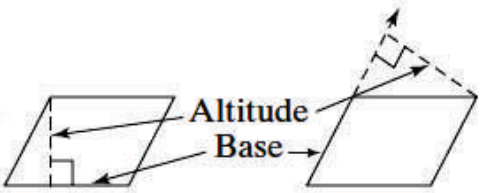


Notes:

A base of a parallelogram is _____

The altitude of a parallelogram corresponding to a given base is _____

_____

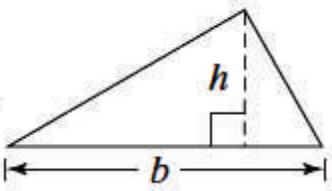


The height of a parallelogram is _____

A base of a triangle is _____

The height of a triangle is _____

_____



Example:

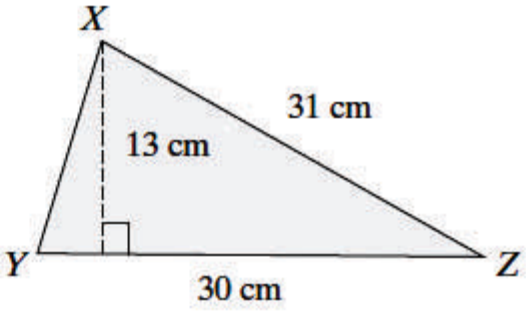
Finding the Area of a Triangle Find the area of $\triangle XYZ$.

$A = \frac{1}{2}bh$ Area of a [ ]

$A = \frac{1}{2}([\ ])([\ ])$ Substitute [ ] for b and [ ] for h.

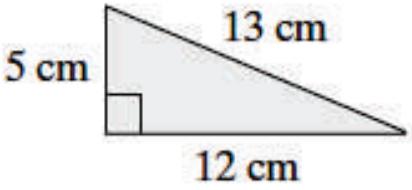
$A =$ [ ] Simplify.

$\triangle XYZ$ has area [ ] cm^2.



Example:

Find the area of the triangle.



Example:

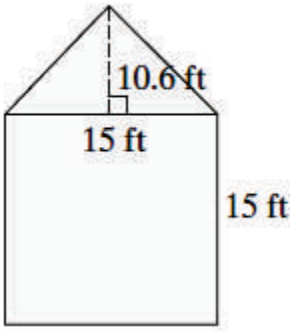
Use the area formulas for rectangles and triangles to find the area of the front of the garage.

Area of the square: ☐ = ☐^{2} = ☐ ft^2

Area of the triangle: ☐ = $\frac{1}{2}$(☐)(☐) = ☐ ft^2

The total area of the front of the garage is

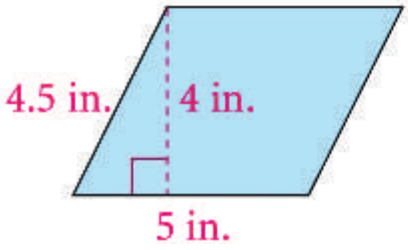
☐ + ☐ = ☐ ft^2.



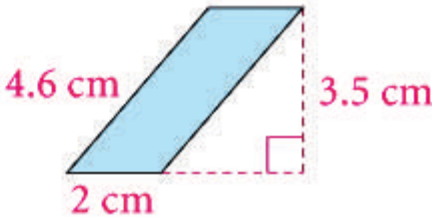
Example:

Find the area of each parallelogram.

a.



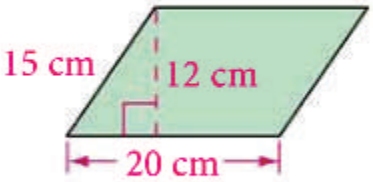
b.



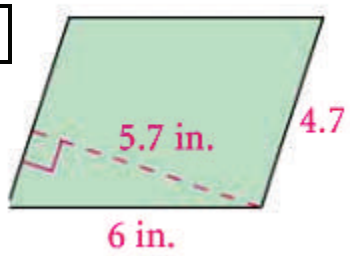
Assignment:

Find the area of each parallelogram.

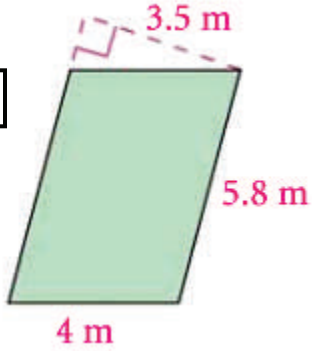
1.



2.

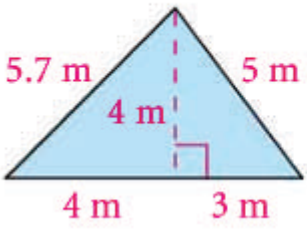


3.

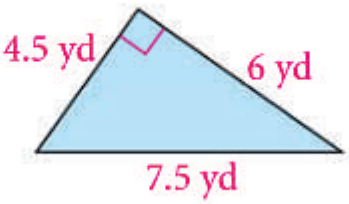


Find the area of each triangle.

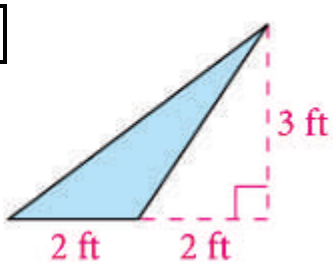
4.



5.

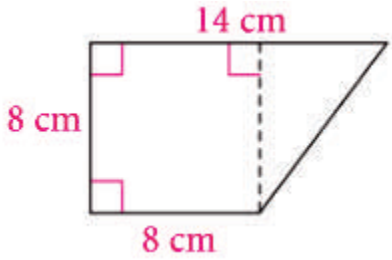


6.



7.

Multiple Choice What is the area of the figure at the right?



(A) 64 cm^2
(B) 88 cm^2
(C) 96 cm^2
(D) 112 cm^2

8.

Find the area of each figure.

$\square ABJF$

$\triangle BDJ$

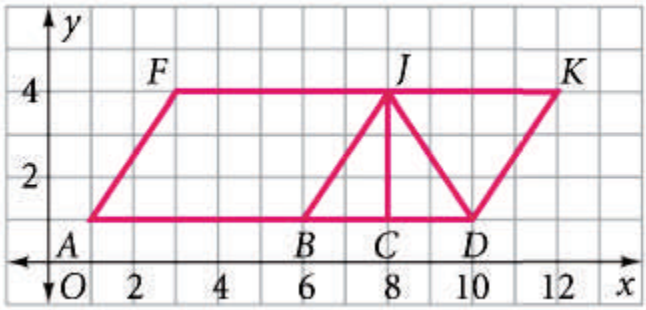
$\triangle DKJ$

$\square BDKJ$

$\square ADKF$

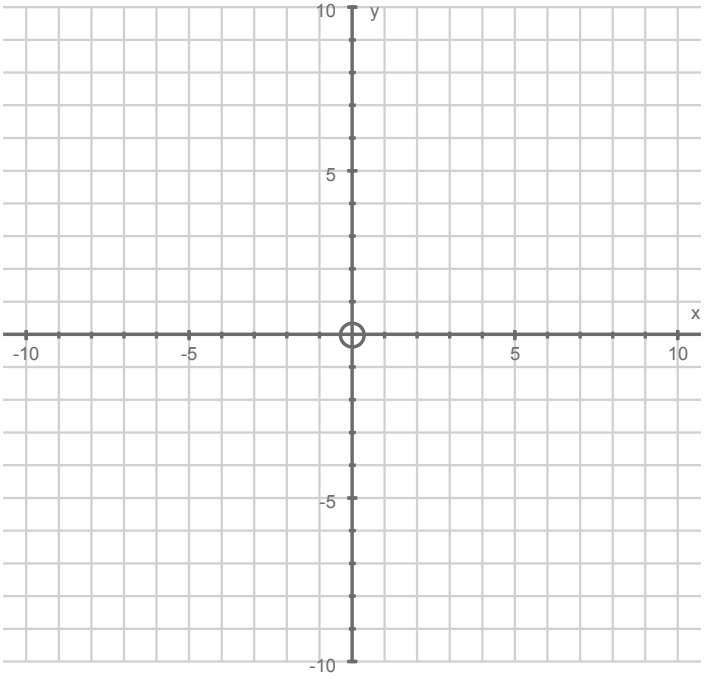
$\triangle BCJ$

$ADJF$



9.

What is the area of $\square ABCD$ with vertices $A(-4, -6)$, $B(6, -6)$, $C(-1, 5)$, and $D(9, 5)$?



10.

What is the area of $\triangle DEF$ with vertices $D(-1, -5)$, $E(4, -5)$, and $F(4, 7)$?