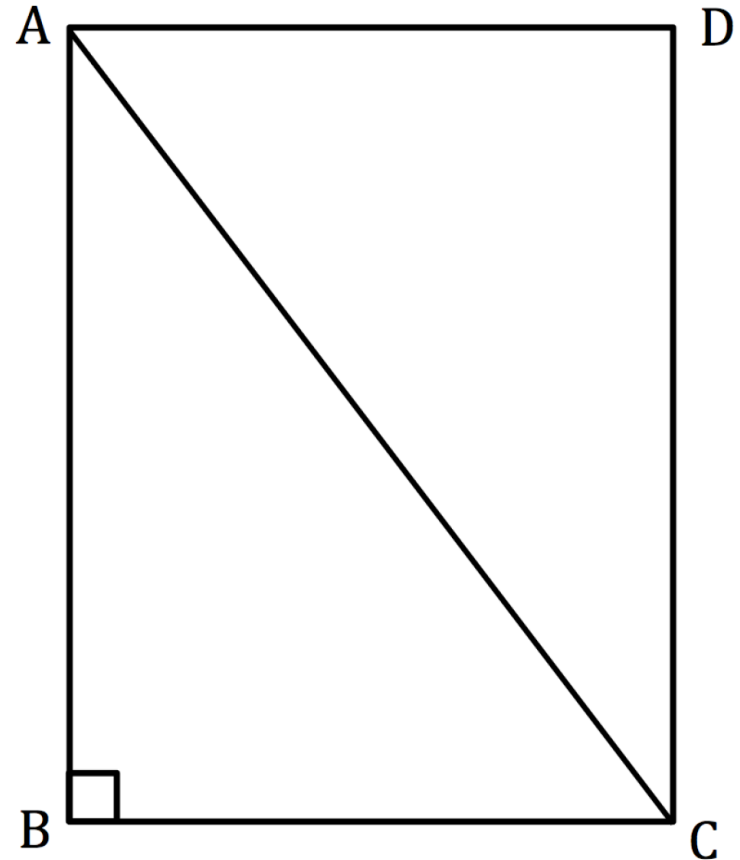


# Problem 1 – Rectangle ABCD

Given two values for the size of this rectangle, find the missing information.

Area of <b>rectangle</b> ABCD	12 in <sup>2</sup>
Area of <b>triangle</b> ABC	
Length of $\overline{AB}$	
Length of $\overline{BC}$	3 in
Length of $\overline{AC}$	
1. What is the sum of the areas of $\triangle ABC$ and $\triangle ADC$ ?	
2. How does the answer to question 1 compare to the area of RECTANGLE ABCD ?	



Formulas that may be helpful :

Pythagorean Theorem  $a^2 + b^2 = c^2$

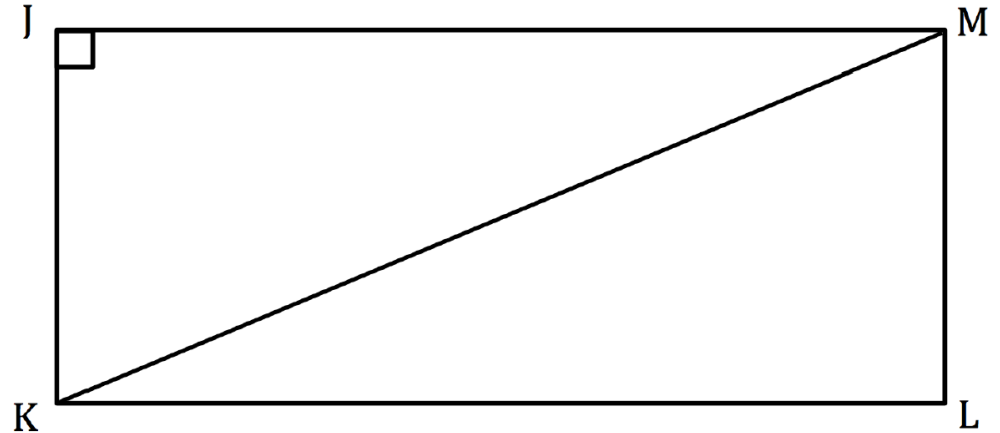
Area of a rectangle  $A = bh$

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

# Problem 2 – Rectangle JKLM

Given two values for the size of this rectangle, find the missing information.

Area of <b>rectangle</b> JKLM	
Area of <b>triangle</b> JKM	30 cm <sup>2</sup>
Length of $\overline{KL}$	
Length of $\overline{LM}$	5 cm
Length of $\overline{KM}$	
1. What is the perimeter of $\triangle MLK$ ?	
2. Is the perimeter of RECTANGLE JKLM greater than 24cm, less than 24 cm, or equal to 24 cm ? How do you know ? You must support your answer showing all work below:	



Formulas that may be helpful :

Pythagorean Theorem  $a^2 + b^2 = c^2$

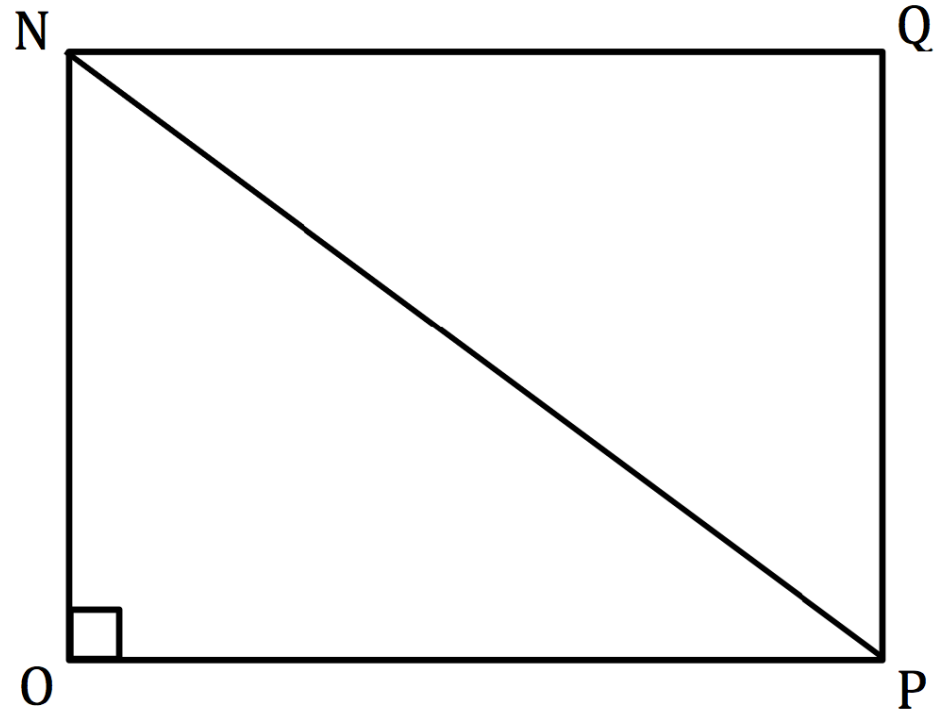
Area of a rectangle  $A = bh$

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

# Problem 3 – Rectangle NOPQ

Given two values for the size of this rectangle, find the missing information.

Area of <b>rectangle</b> NOPQ	
Area of <b>triangle</b> NOP	
Length of $\overline{NQ}$	16 m
Length of $\overline{QP}$	12 m
Length of $\overline{NP}$	
1. What is the perimeter of $\triangle ONP$ ?	
2. What is the length of $\overline{ON}$ ?	
3. What is the length of $\overline{OP}$ ?	



Formulas that may be helpful :

Pythagorean Theorem  $a^2 + b^2 = c^2$

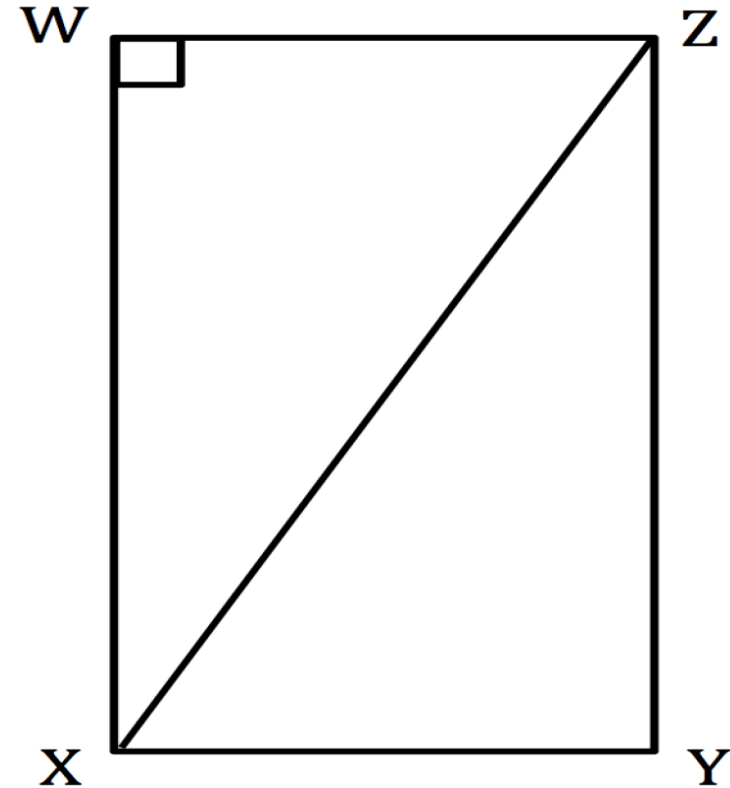
Area of a rectangle  $A = bh$

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

# Problem 4 – Rectangle WXYZ

Given two values for the size of this rectangle, find the missing information.

Area of <b>rectangle</b> WXYZ	
Area of <b>triangle</b> ZWX	
Length of $\overline{WZ}$	
Length of $\overline{WX}$	15 ft
Length of $\overline{XZ}$	17 ft
1. What is the angle measure of $\angle WXZ$ if $\angle WZX$ measures $59^\circ$ ?	
2. What type of angle is $\angle XYZ$ ? Show how you know.	
3. What is the total angle sum measure $\angle WZX$ and $\angle YZX$ ? How can you use the a triangle to prove your answers?	



Formulas that may be helpful :

Pythagorean Theorem  $a^2 + b^2 = c^2$

Area of a rectangle  $A = bh$

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