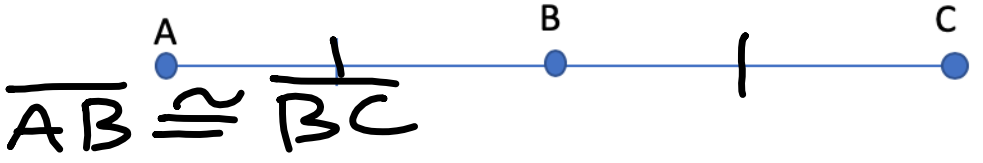
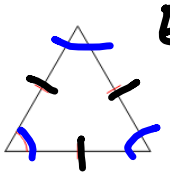
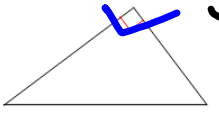
Bellwork: 6&9Sep

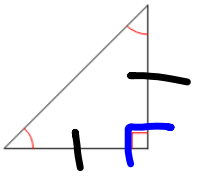
1. What do the tick markings mean as in: congruent

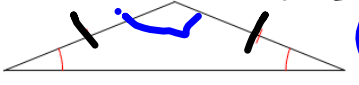


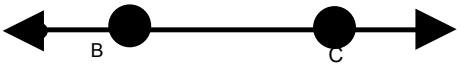
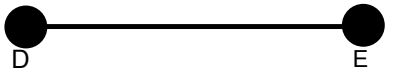
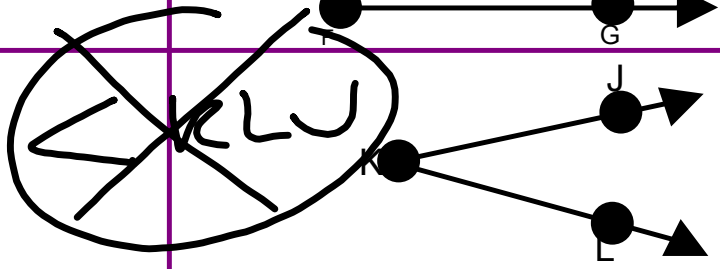
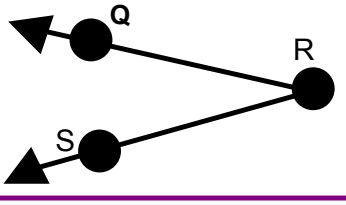
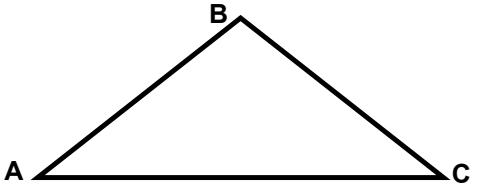
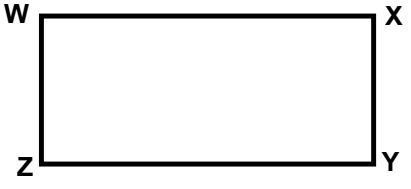
2. Classify the following triangles:

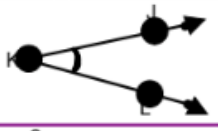
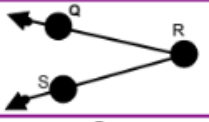
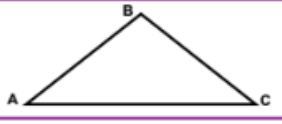
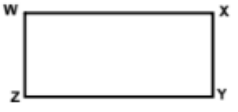
1)  Equilateral acute

2)  Scalene right

3)  Isosceles Right

4)  Isosceles Obtuse

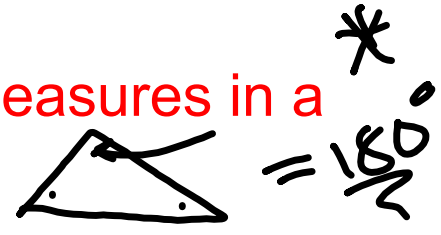
Vocabulary	Drawing	Notation
Line:		$\overleftrightarrow{BC}$
Line segment:		$\overline{DE}$
Ray:		$\overrightarrow{FG}$
Angle:		$\angle K$ $\angle JKL$ $\angle LKJ$
Measure of Angle:		$m\angle QRS$ $m\angle R$ $m\angle SRQ$
Triangle:		$\triangle ABC$
Quadrilateral:		$\square WXYZ$

Vocabulary	Drawing	Notation
Line:		$\overleftrightarrow{BC}$
Line segment:		$\overline{DE}$
Ray:		$\overrightarrow{FG}$
Angle:		$\angle K$ $\angle JKL$ $\angle LKJ$
Measure of Angle:		$m\angle R$ $m\angle QRS$ $m\angle SRQ$
Triangle:		$\triangle ABC$
Quadrilateral:		$\square WXYZ$

1-4 Properties of Triangles

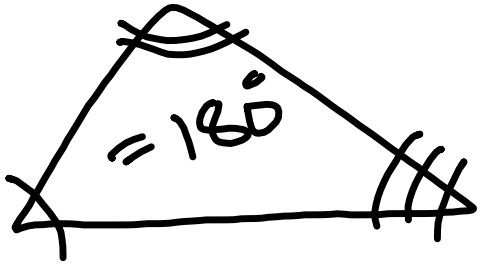
1-4

I can find missing angle measures in a triangle.

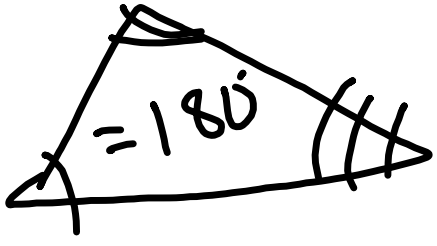


I can solve problems using properties of triangles (isosceles, midsegments, angle sum).

The Triangle Sum Theorem

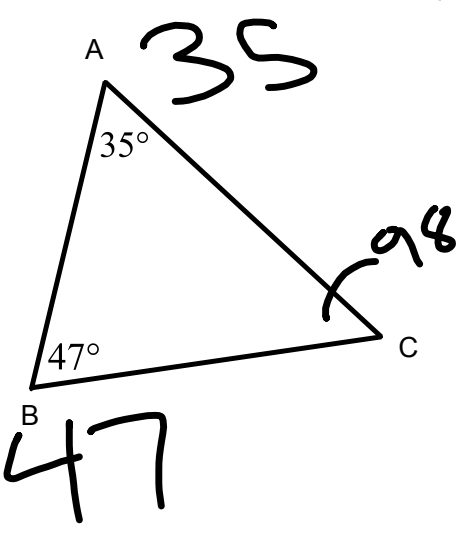


The Triangle Sum Theorem:
The sum of the measures of the interior angles of a triangle is 180°.

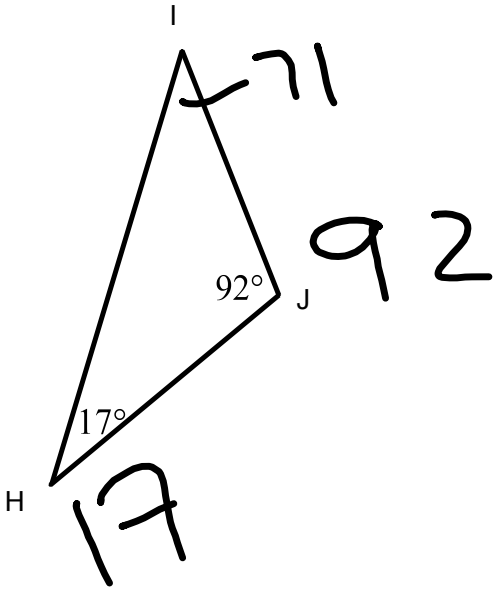


Find the missing angle measures:

180−(35+47)
=98

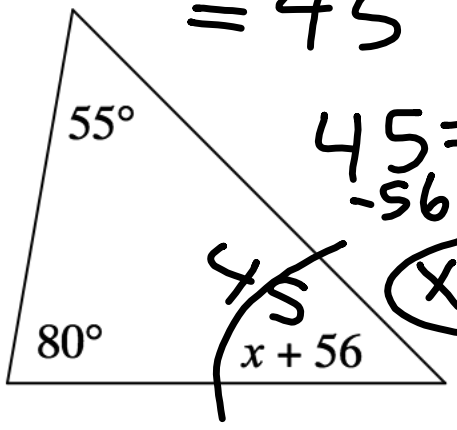


35
98
47



71
92
17

Find the value of x. Justify your answer (in words).



$55+80=135$

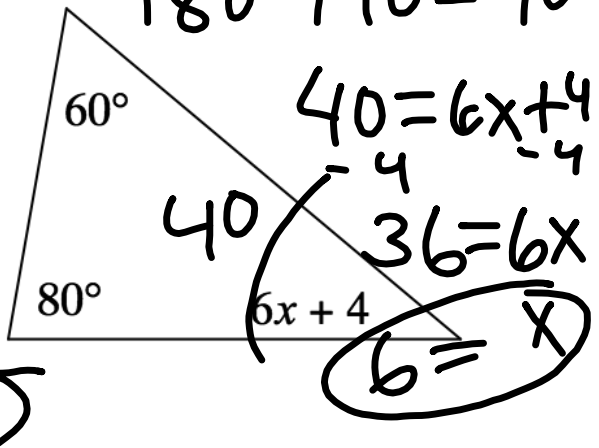
$180-135$

$=45$

$45=x+56$

$-56 \quad -56$

$x=-11$



$60+80=140$

$180-140=40$

$40=6x+4$

$-4 \quad -4$

$36=6x$

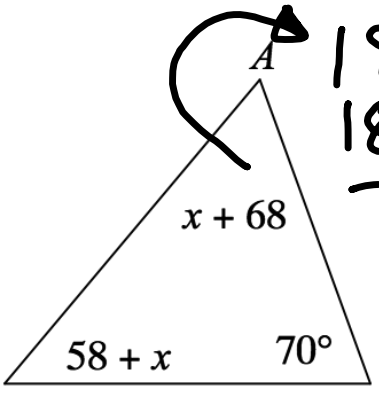
$6=x$

$180=55+80+x+56$

$180=191+x$

$-11=x$

Find the measure of angle A. Explain your reasoning (in words).



$180 = x + 68 + 58 + x + 70$

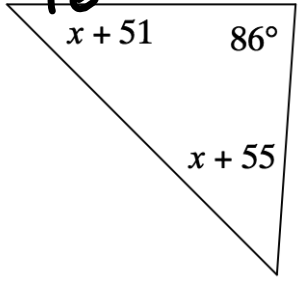
$180 = 2x + 196$

$-196 \quad -196$

$\frac{-16}{2} = \frac{2x}{2}$

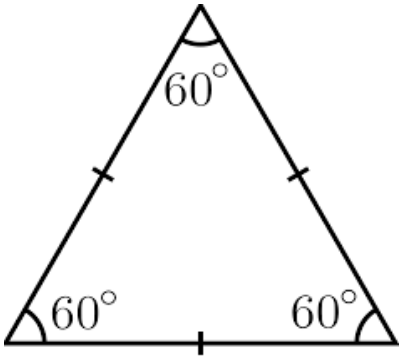
$-8 = x$

$x + 68 \rightarrow -8 + 68 = 60$



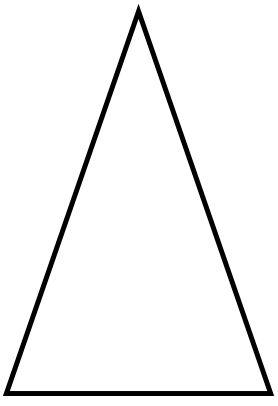
Equilateral Triangle:

All angles in the triangle are congruent.
All sides in the triangle are congruent.



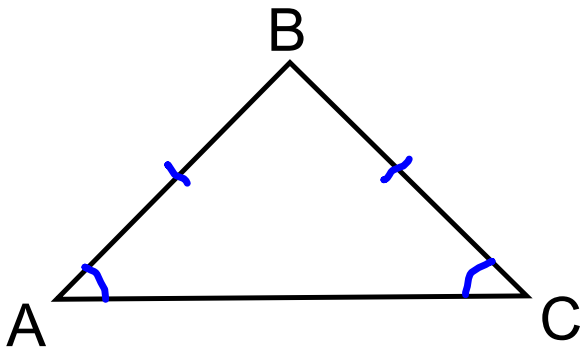
Isosceles Triangle:

At least 2 sides (called the *legs*) of the triangles are congruent.



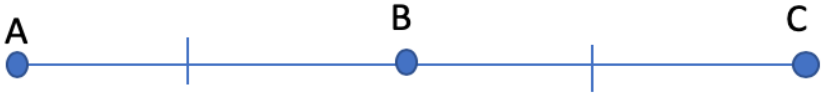
Base Angles

Find the measure of all angles in triangle ABC if angle B is 80^{O}.

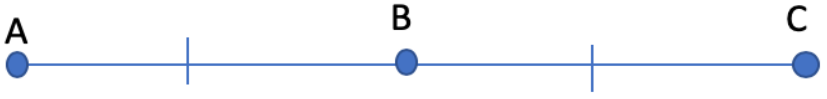


What is a midsegment?

What is a midsegment?

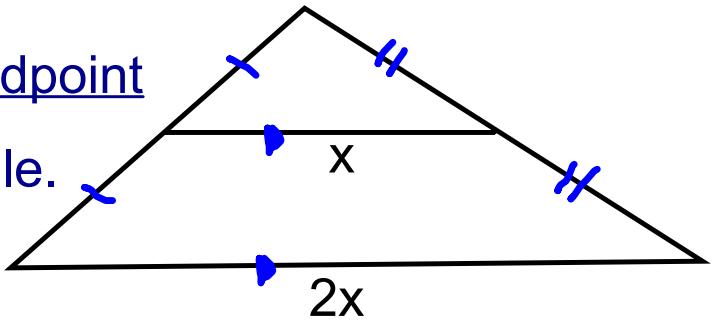


What is a midsegment?

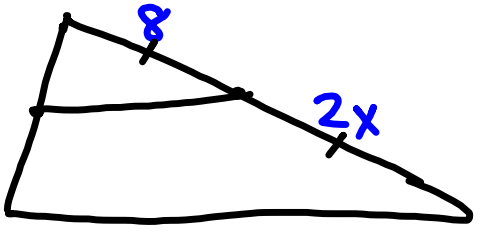


Point B is the midpoint

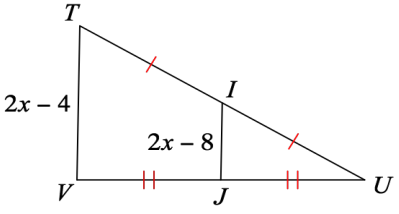
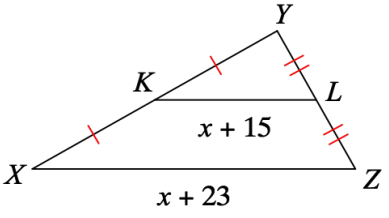
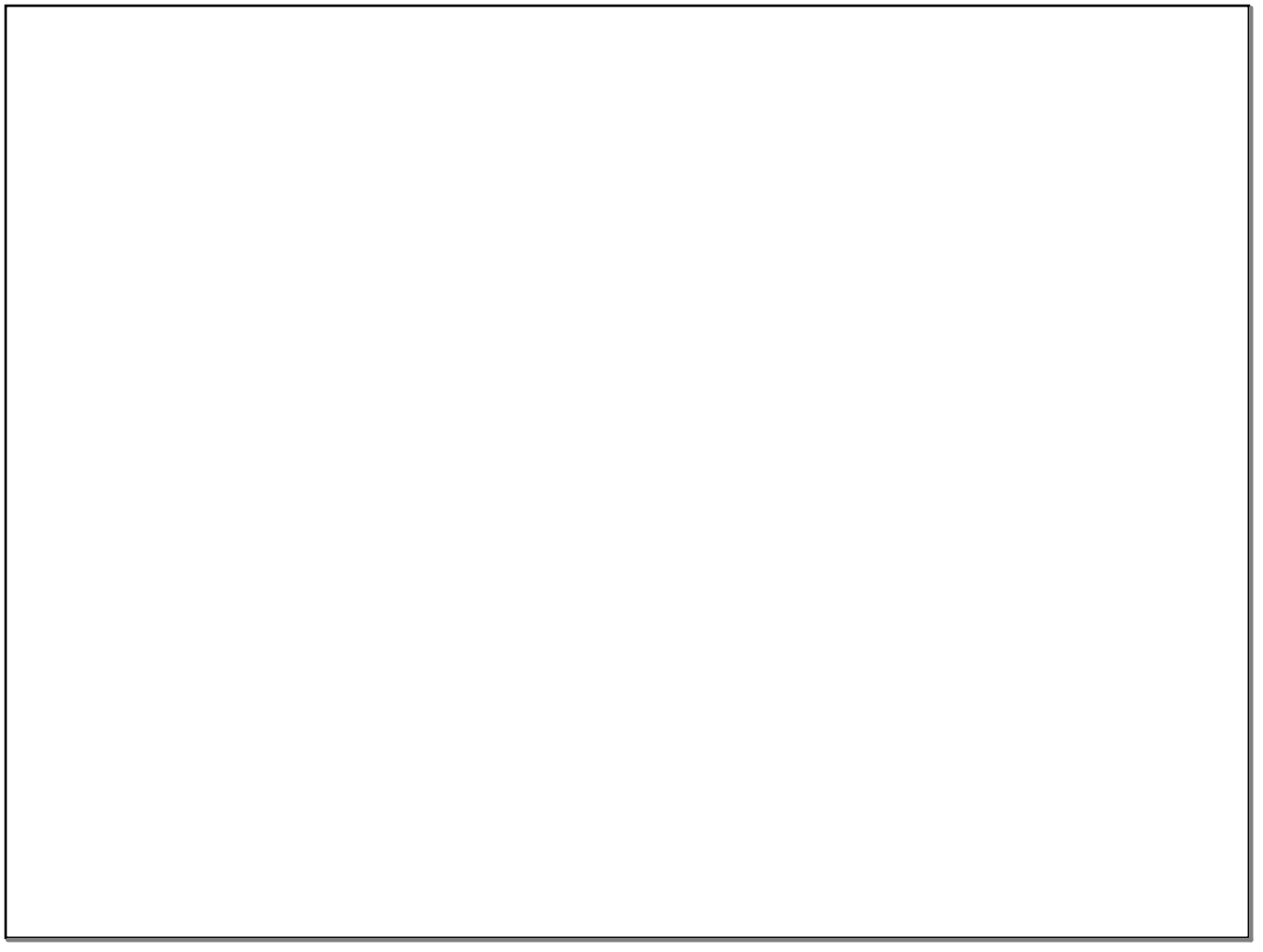
Midsegment - a segment that connects the midpoint of 2 sides of a triangle. It is || to the third side of the triangle and half as long.



Ex:



$$\frac{8}{2} = \frac{2x}{2}$$

$$x = 4$$

Solve for x and justify your answer (with words).