If it is raining, then the sidewalk is wet.

Converse: If the sidewalk is wet then it is raining

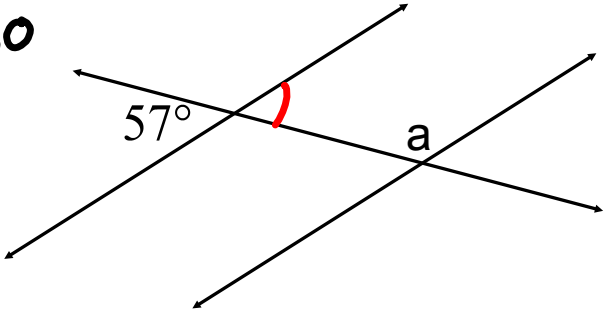
Inverse: If it is not raining, the sidewalk is not wet.

Contrapositive: If The Sidewalk Is Not Wet It is Not Raining

What is the measure of angle a?

$57 + a = 180$

$a = 123°$



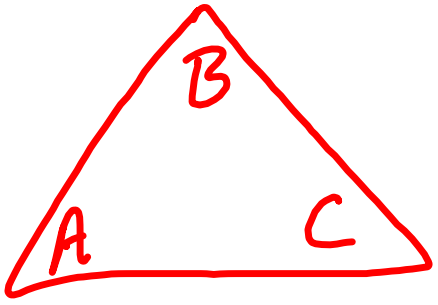
7-4 Properties of Triangles

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:

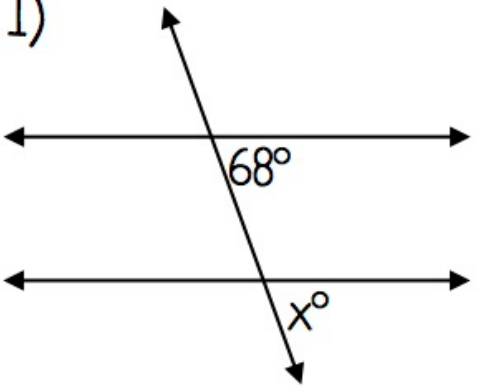
The sum of the measures of the interior angles of a triangle is 180°.



$A + B + C = 180$

February 13, 2019

1)



Type of angle pair

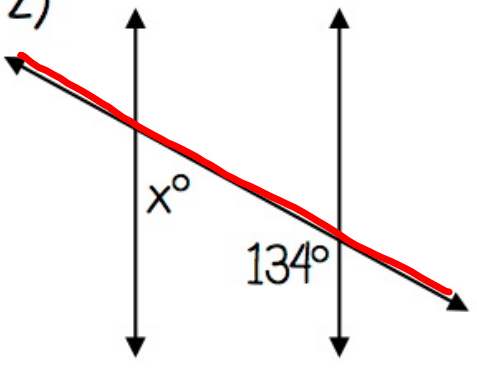
_____

These angles are

_____

so...x=_____

2)



Type of angle pair

Same Side Int

These angles are

_____

so...x=_____

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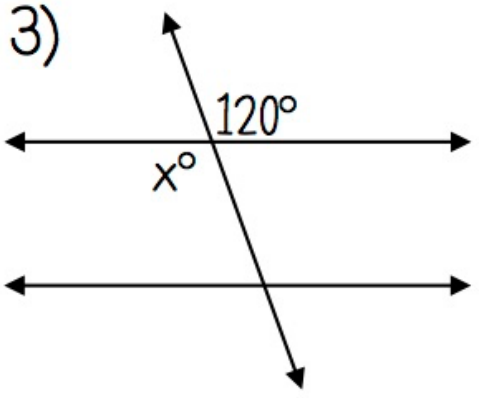
3)



Type of angle pair

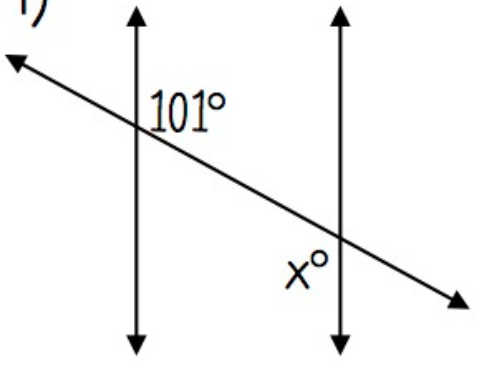
_____

These angles are

_____

so...x=_____

4)



Type of angle pair

_____

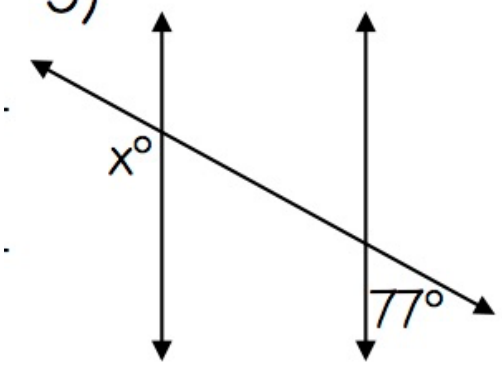
These angles are

_____

so...x=_____

February 13, 2019

5)



Type of angle pair

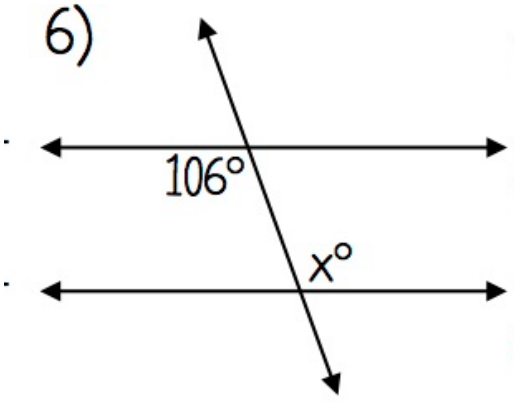
Same Side Ext

These angles are

_____

so...x=_____

6)



Type of angle pair

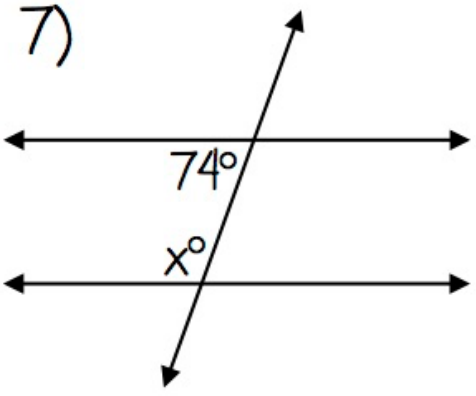
_____

These angles are

_____

so...x=_____

7)

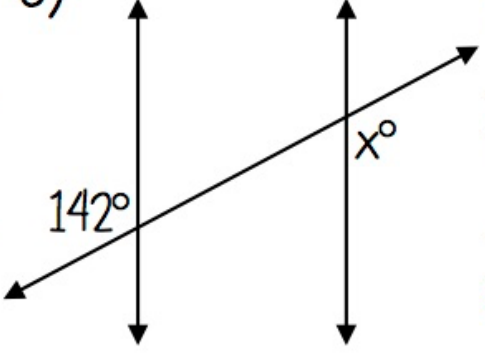


Type of angle pair _____

These angles are _____

so...x=_____

8)

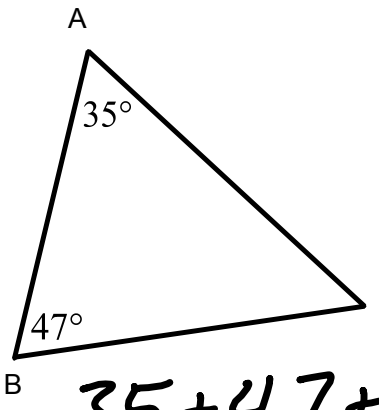


Type of angle pair _____

These angles are _____

so...x=_____

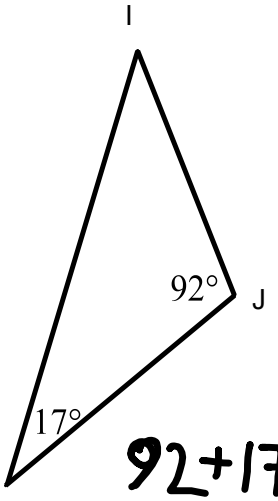
Find the missing angle measures:



$35+47+C=180$

$82+C=180$

$C=98°$



$92+17=109$

$180-109=71$

$I=71°$

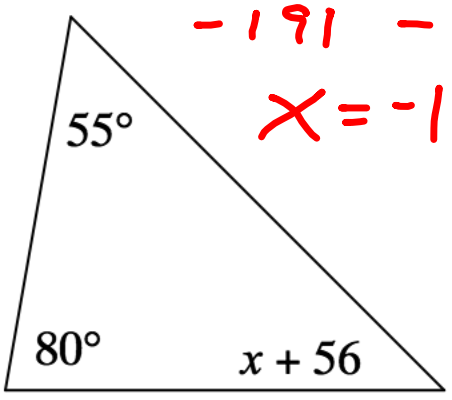
Find the value of x. Justify your answer (in words).

$55 + 80 + x + 56 = 180$

$x + 191 = 180$

$-191 \quad -191$

$x = -11$



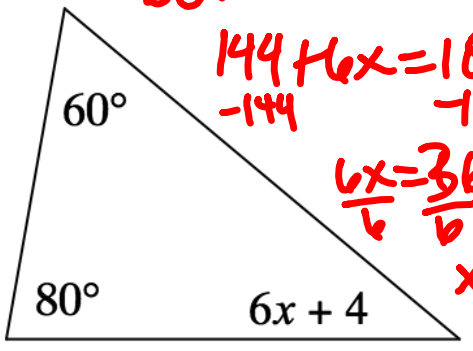
$60 + 80 + 6x + 4 = 180$

$144 + 6x = 180$

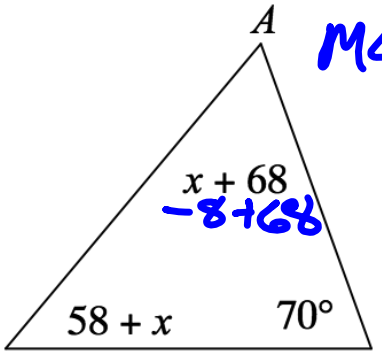
$-144 \quad -144$

$\frac{6x}{6} = \frac{36}{6}$

$x = 6$



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



$m\angle A = 60°$

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

$2x + 196 = 180$

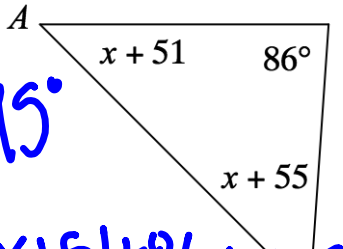
$-196 \quad -196$

$2x = -16$

$x = -8$

$x + 68$

$-8 + 68$



$m\angle A = 45°$

$x + 51 + 86 + x + 55 = 180$

$192 + 2x = 180$

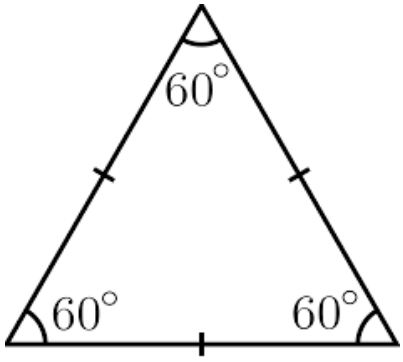
$-192 \quad -192$

$\frac{2x}{2} = \frac{-12}{2}$

$x = -6$

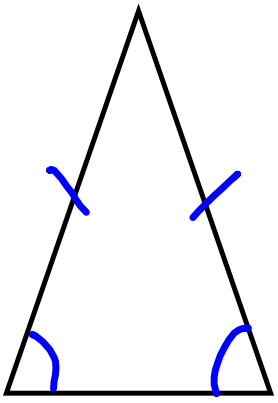
Equilateral Triangle:

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



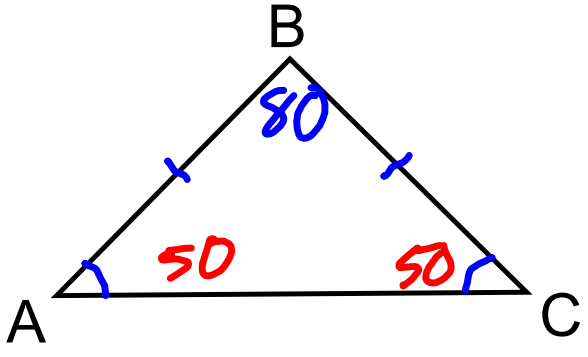
Isosceles Triangle:

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

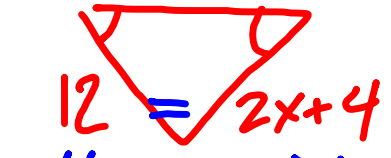


Base Angles

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



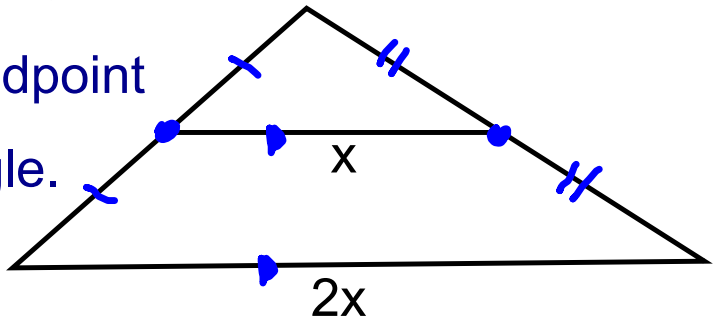
$180 - 80 = 100$



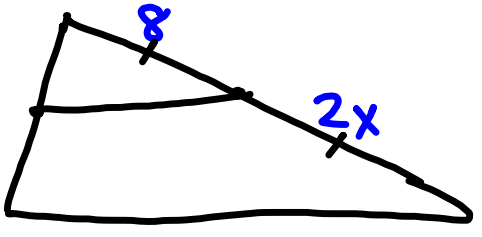
$-4 \quad -4$

$\frac{8}{2} = \frac{2x}{2} \quad x = 4$

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.



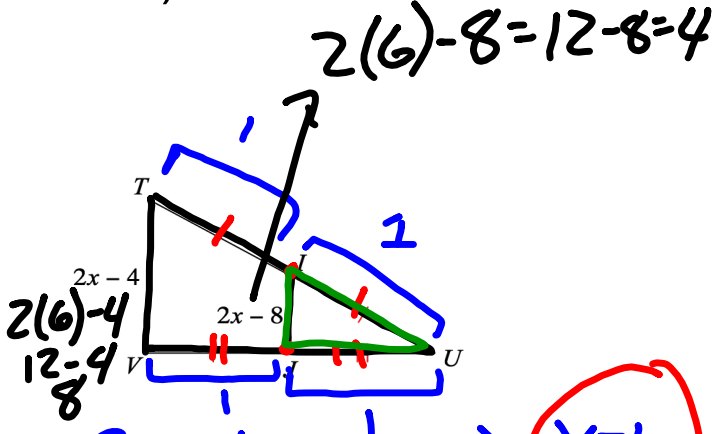
Ex:



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

$x = 4$

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



$2(6)-8=12-8=4$

$2(6)-4$

$12-4$

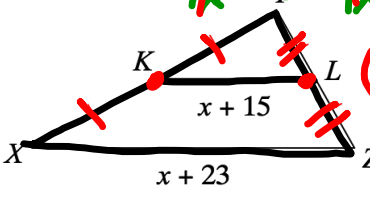
8

$2x-4=2(2x-8)$

$X=6$

$-2x+16 \quad -2x+16$

$\frac{12}{2}=\frac{2x}{2}$



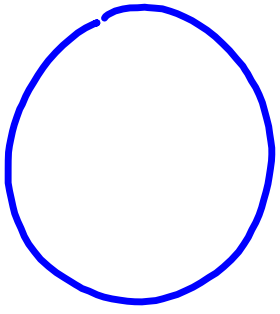
$X+23=2(x+15)$

$x+23=2x+30$

$-1x \quad -30 \quad -1x \quad -30$

$-7=X$

A Circle has 1 side.



Two circles can be parallel.