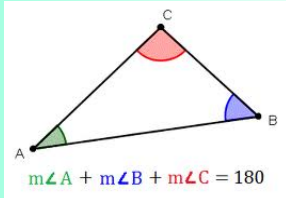
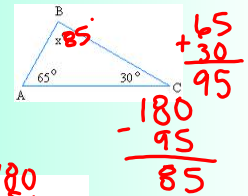
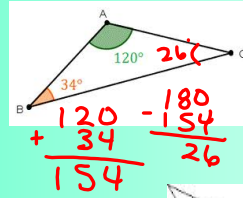


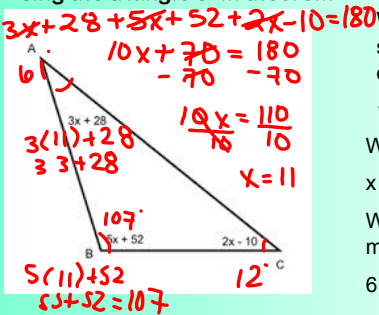
Solving Equations using the Triangle Sum Theorem



Review -- Find the missing angle

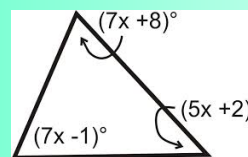


What equation can we write to solve for x using the triangle sum theorem?



What is the simplified equation?
 $10x + 70 = 180$
What is x?
 $x = 11$
What are the angle measures?
61, 107, 12

Write an equation and solve for x using the Triangle Sum Theorem



Equation: $19x + 9 = 180$

$x = 9$

Angle Measurements:

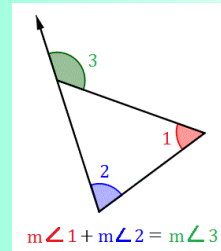
$7x + 8 + 5x + 2 + 7x - 1 = 180$ 71, 47, 62

$19x + 9 = 180$
 $19x = 171$

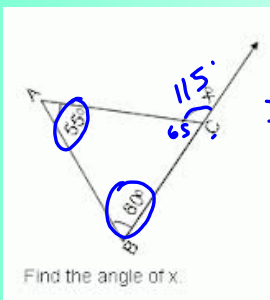
Exterior Angle Theorem

Exterior Angle Theorem

The measure of an exterior angle of a triangle is equal to the sum of the measures of the two remote interior angles.

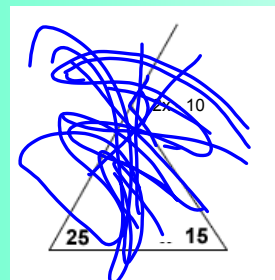


Use The Exterior Angle Theorem to find x and the measure of the exterior angle.



$$\begin{array}{r} 55 \\ + 60 \\ \hline 115 \end{array}$$

Use The Exterior Angle Theorem to find x and the measure of the exterior angle.



Equation:

$x =$ _____

Exterior Angle:

Use The Exterior Angle Theorem to solve

1)

A) 35° B) 75°
 C) 40° D) 36°

$$65 + x = 105$$

$$-65 \quad -65$$

$$x = 40$$

Use The Exterior Angle Theorem to solve

1)

A) 15 B) 6
 C) 5 D) 8

$$60 + 7x + 5 = 100$$

$$7x + 65 = 100$$

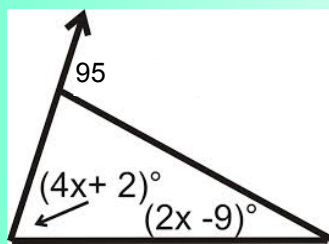
$$-65 \quad -65$$

$$7x = 35$$

$$\frac{7x}{7} = \frac{35}{7}$$

$$x = 5$$

Use The Exterior Angle Theorem to solve for x.



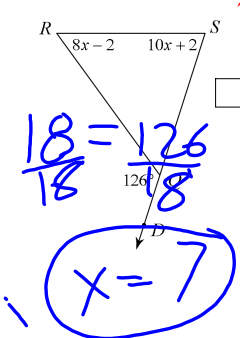
$$6x - 7 = 95$$

$$+7 \quad +7$$

$$\frac{6x = 102}{6 \quad 6}$$

$$x = 17$$

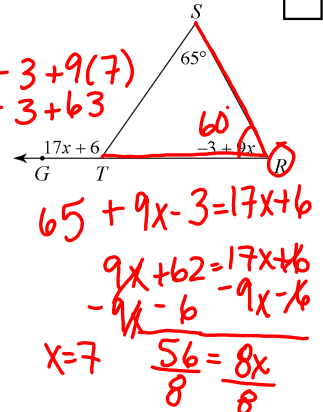
Solve for x



$$\frac{18}{18} = \frac{126}{18}$$

$$x = 7$$

Find $m\angle SRT$



$$-3 + 9(7)$$

$$-3 + 63$$

$$65 + 9x - 3 = 17x + 6$$

$$9x + 62 = 17x + 6$$

$$-9x \quad -9x$$

$$x = 7 \quad \frac{56}{8} = \frac{8x}{8}$$

Attachments

notebook(339258d4bd).galleryitem