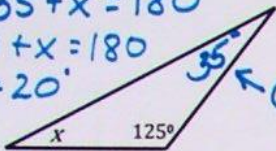*missing (top)*
given
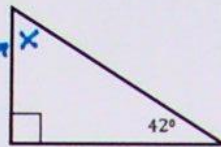*Rewrite ex#1*

Interior Angles of a Triangle

FACT: The three interior angles of a triangle always add up to __180__°.

Write an equation and solve to find the missing angle in the triangle.

$125 + 35 + x = 180$
$160 + x = 180$
$x = 20°$
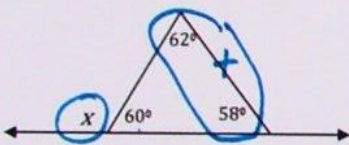
35°

← Given

x
125°

$42 + x = 90$
$x = 48°$

42°

Exterior Angles of a Triangle

The exterior angle of a triangle is always equal to the sum of the opposite interior angles.

Example 1: Examine the figure below. Find the measure of the missing angle
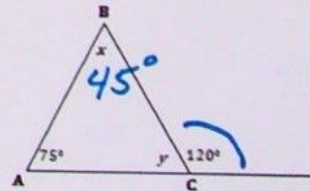
62°

x   60°   58°

$180 = 180$
$x + 60 = 62 + 58 + x$

1) Sum ∡'s in triangle = __180°__

2) x = __120°__

3) Sum of interior angles opposite of angle "x"

= __58__ + __62__ = __120°__

Example 2: Find the measure of ∡x and ∡y.

B

x   45°

75°   y   120°

A   C

Find x

Step 1: Use the rule for exterior angles to write equation to solve for x.

$120 = x + 75$
$x = 45°$

Find y

Step 2: The sum of the interior angles of a triangle equals 180°, and ∡BCA supplements ∡BCD, so either

SUM of INTERIOR ANGLES

$75 + 45 + y = 180$
$120 + y = 180$
$y = 60°$

SUPPLEMENTAL ANGLES

$y + 120 = 180$
$y = 60°$