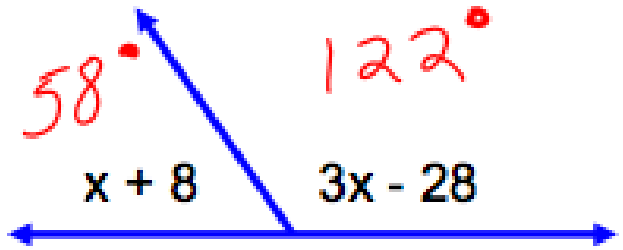
Chapter 11-1 to 11-3 Review

Find the value of x, the measure of each angle, and classify the pairs of angles.

1)



$x + 8 + 3x - 28 = 180$

$4x - 20 = 180$

$4x = 200$

$x = 50$

Supplementary

2) One complementary angle is 6 more than twice the other. Find both angles.

$x + 2x + 6 = 90$

$3x + 6 = 90$

$3x = 84$

$x = 28$

$\angle 1 = x$

$\angle 2 = 2x + 6$

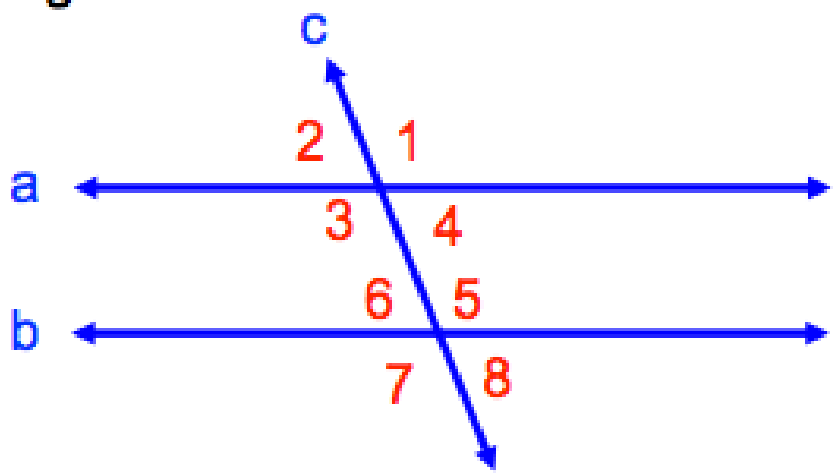
$\angle 1 = 28°$

$\angle 2 = 2(28) + 6$

$= 62°$

3) Use the diagram to answer the following:

Given information:
Line a and line b are parallel lines.
Line c is a transversal line.



a) Classify angles 1 and 3.

Vertical angles

b) Classify angles 4 and 6.

Alternate interior angles

c) Classify angles 2 and 8.

Alternate exterior angles

d) Identify one pair of corresponding angles.

Angles 1 and 5, 2 and 6, 3 and 7, or 4 and 8.

e) If angle 3 is 110^0, how large is angle 8? EXPLAIN.

70^0. Angles 2 and 3 are supplemental. Then angles 2 and 8 are alternate exterior angles.

4) The measures of the angles of Triangle XYZ are in the ratio 1:3:5.
What are the measures of each angle? Classify the triangle.

$$1x + 3x + 5x = 180$$

$$9x = 180$$

$$x = 20$$

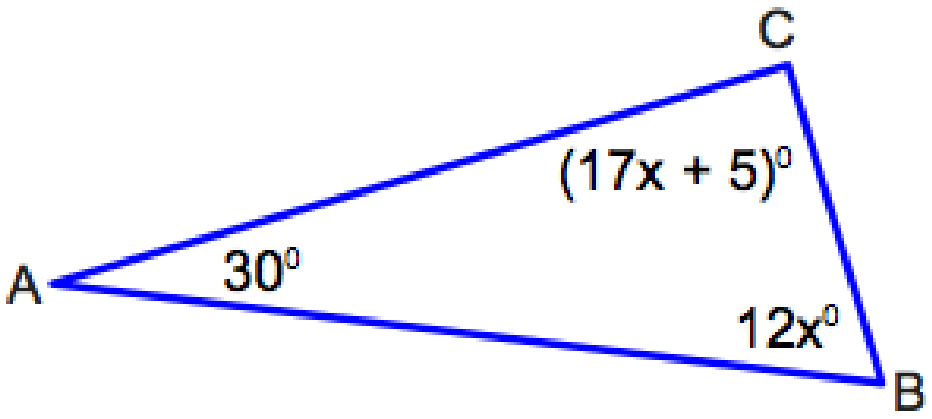
$\angle X = x = 20°$

$\angle Y = 3x = 60°$

$\angle Z = 5x = 100°$ <---- Obtuse angle, making this an Obtuse Triangle.

It is also a Scalene Triangle.

5) Find the measures of the angles in the triangle; then classify the triangle.



It is also a Scalene Triangle.

$17x + 5 + 12x + 30 = 180$

$29x + 35 = 180$

$29x = 145$

$x = 5$

$\angle A = 30°$

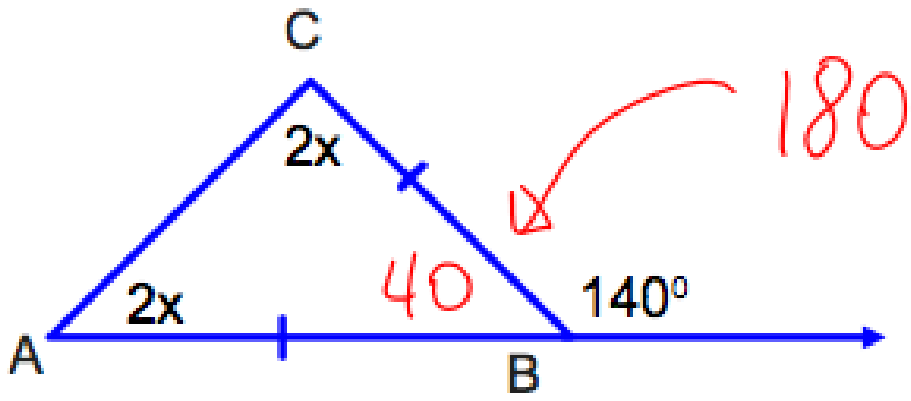
$\angle B = 12(5) = 60°$

$\angle C = 17(5) + 5$

$= 90°$

Right angle making this a Right Triangle.

6) Find the measures of the angles in the triangle; then classify the triangle.



$180 - 140 = 40$

$2x + 2x + 40 = 180$

$4x = 140$

$x = 35$

$\angle A = 2(35) = 70°$

$\angle B = 40°$

$\angle C = 2(35) = 70°$

All are acute angles making this an Acute Triangle.

It is also an Isosceles Triangle.