Classifying Triangles by Sides & Angles
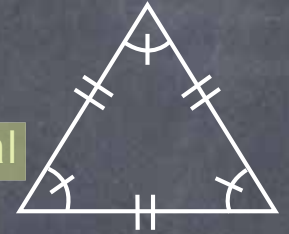
- **Equilateral** - Three congruent sides

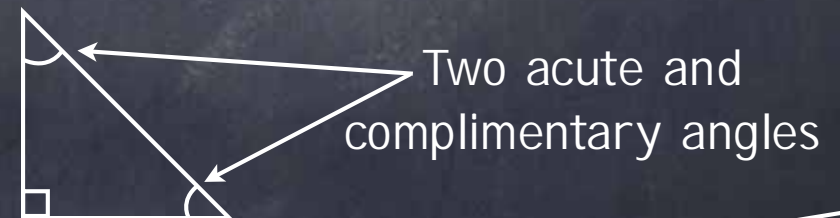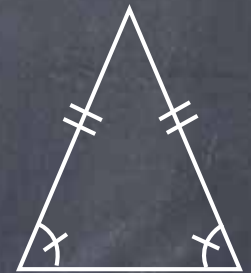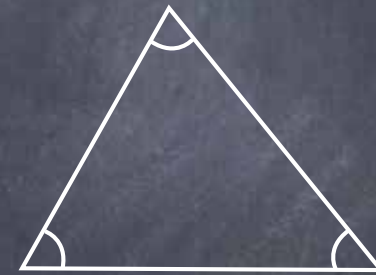- **Equiangular** - All three angles = 60°

- Isosceles - Two congruent sides and base angles

- Scalene - No congruent sides

- Acute - All three angles < 90°

- Right - One right angle

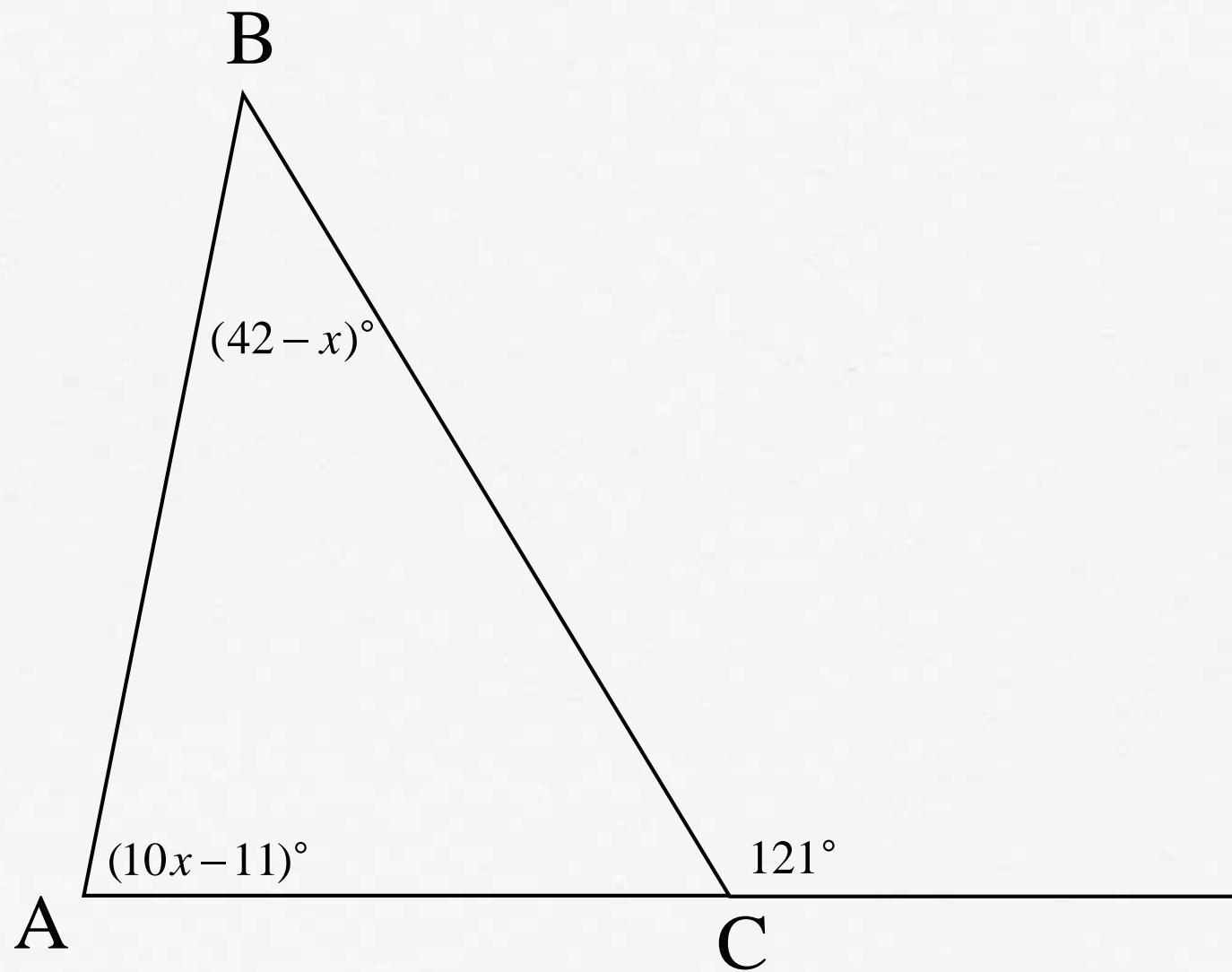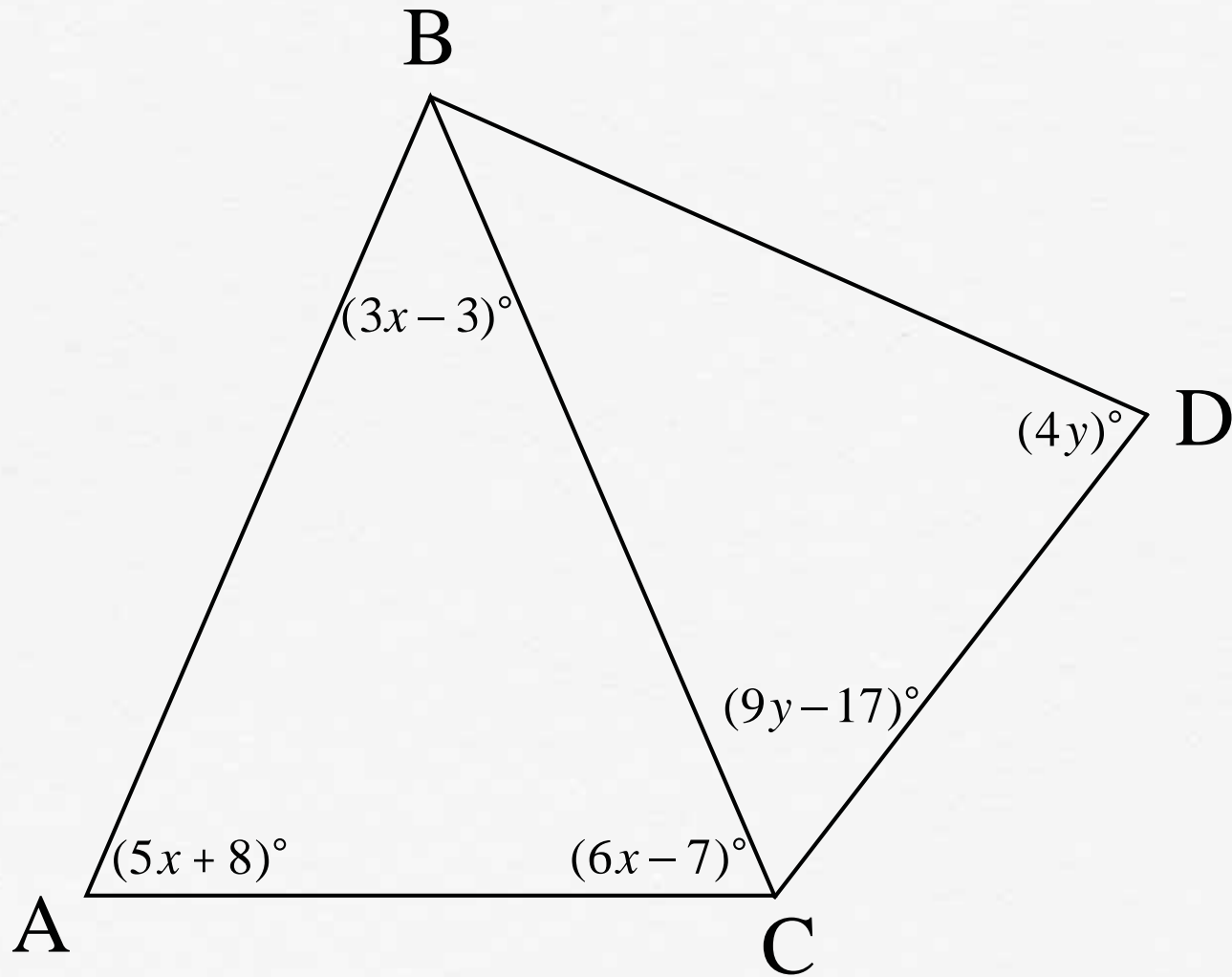- Obtuse - One obtuse angle

Note that they are biconditional

Two acute and complimentary angles

Triangle Practice

Solve for x and find each angle within the triangle

B

$(42 - x)^\circ$

$(10x - 11)^\circ$

121°

A

C

Given $\triangle CBD$, $\triangle ABC$, and $m\angle ABD = 90°$, find the missing angles for both triangles

B

$(3x-3)°$

$(4y)°$ D

$(9y-17)°$

$(5x+8)°$

$(6x-7)°$

A

C

Given the two triangles ABC and DEC

Note that these two triangles are formed
by the line segments

$$\overline{AB}$$

$$\overline{AD}$$

$$\overline{BE}$$

$$\overline{DE}$$

B

C $(2x)°$

D

$(11y + 5)°$

$(3y)°$

E

$(6x + 17)°$
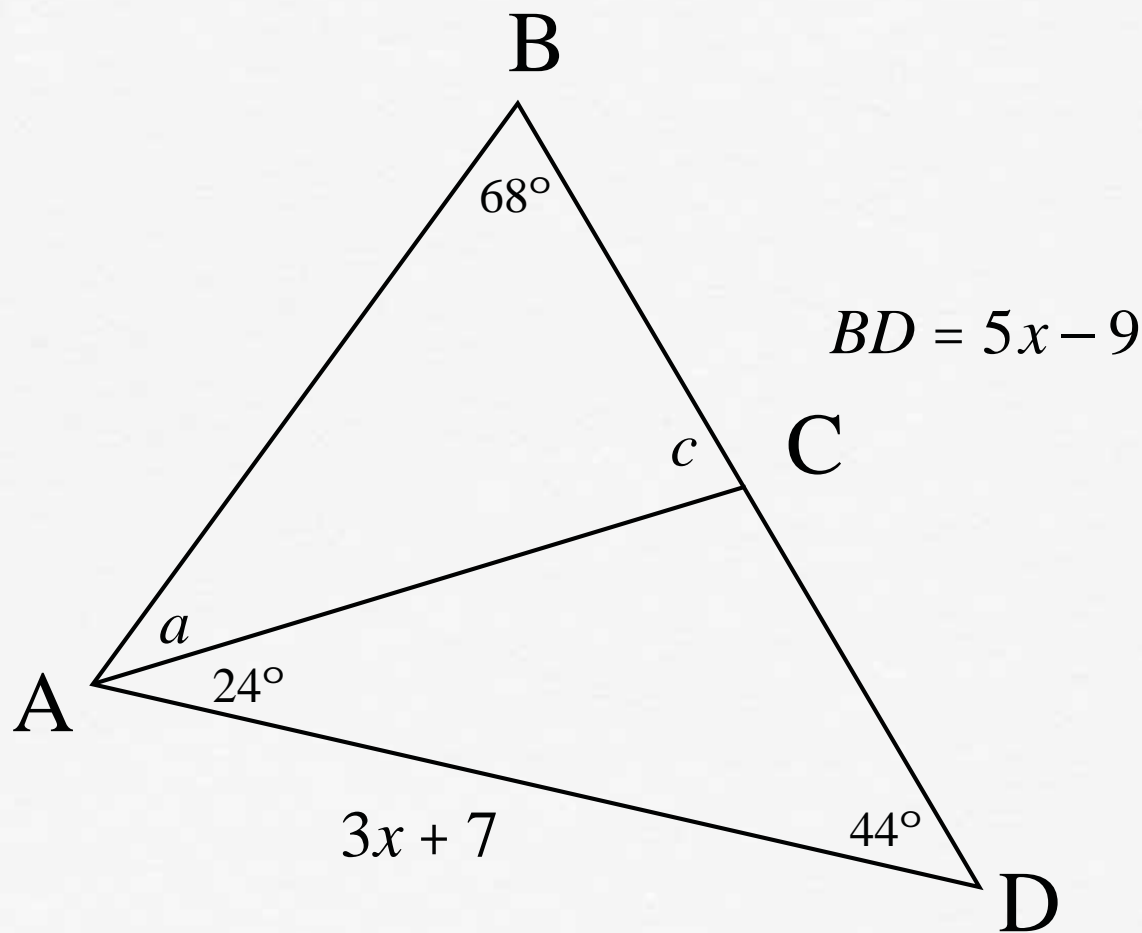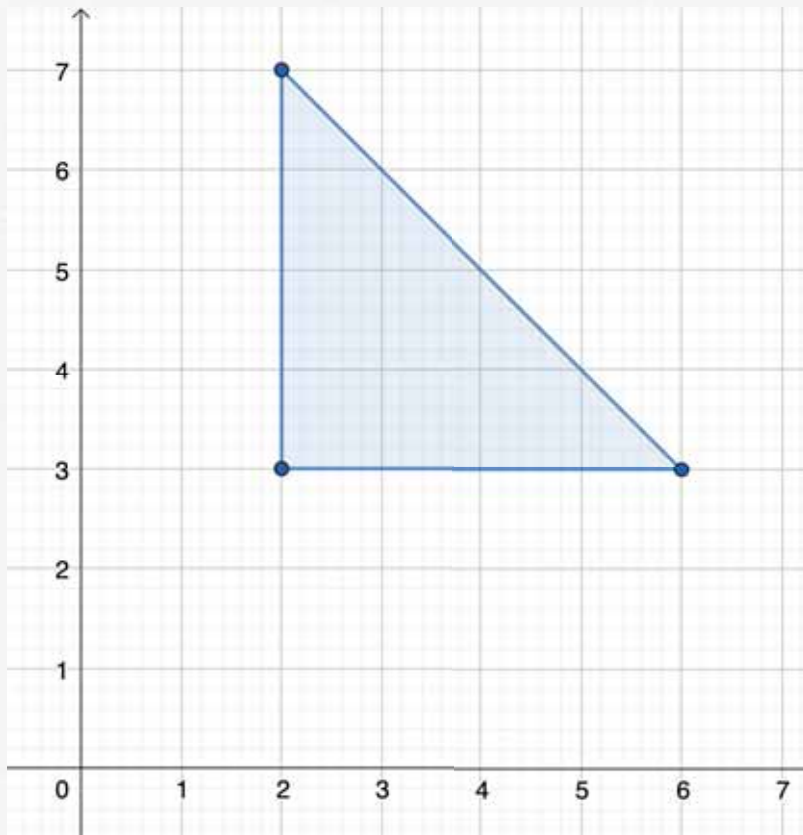
A
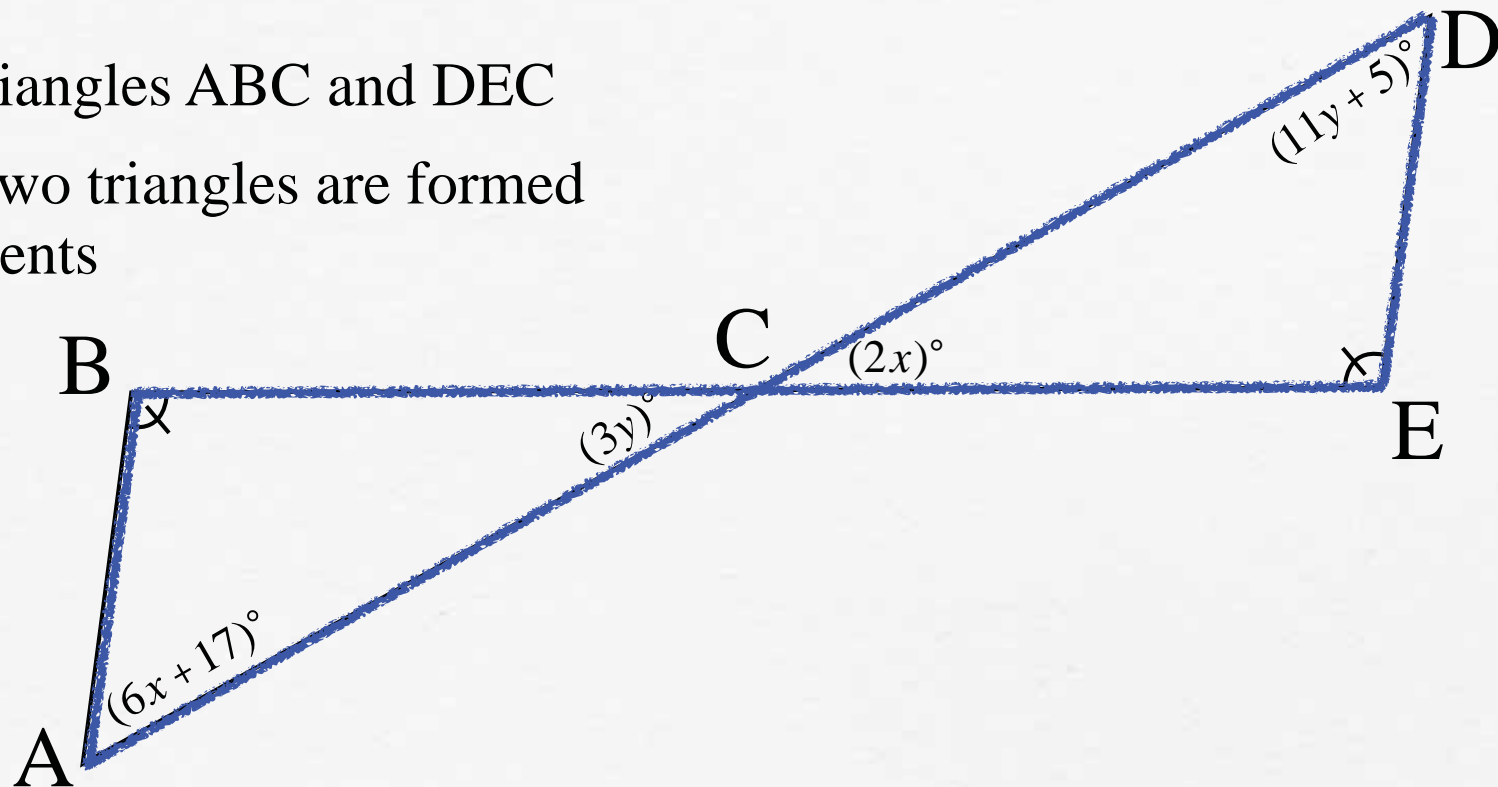
Solve for all six angles

Given $\triangle ABD$, $\triangle ABC$, and $\triangle ACD$, find the missing variables, angles, and determine if any of the triangles are equilateral, or isosceles.

B

68°

$BD = 5x - 9$

c C

a

24°

A

$3x + 7$

44°

D

Given the points $A(2, 3)$ $B(6, 3)$ and $C(2, 7)$ classify $\triangle ABC$ by its sides and determine if it is a right triangle

We can just graph it

But what if the right angle isn't so obvious?

Hint 1: Start with the Distance Formula

Hint 2: Look for perpendicular slopes