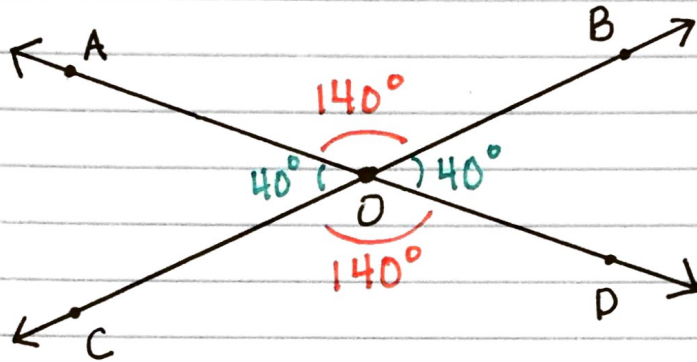# Vertical Angles (Line Rotations)
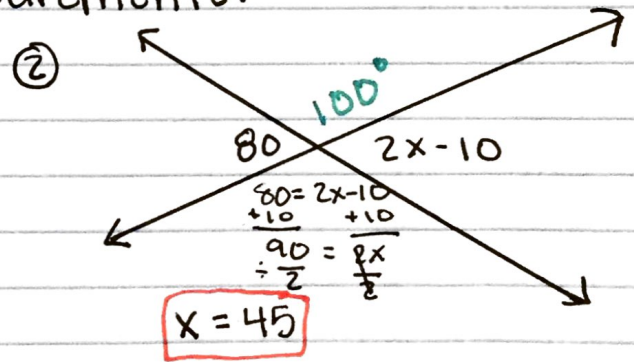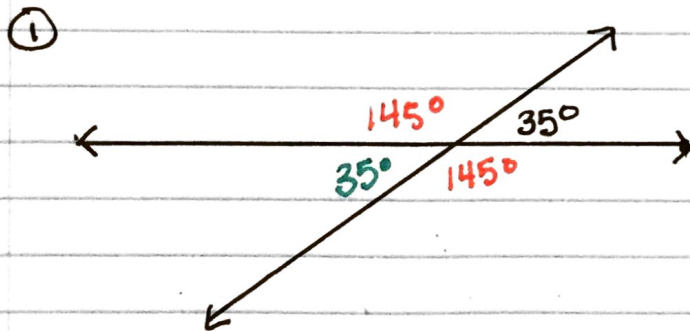
Vertical Angles are formed when two lines intersect at a point. They are located opposite one another at the intersection.

A ... B
140°
40° (O) 40°
140°
C ... D

Vertical angles are congruent because they are supplementary to the same angle

*TIP* Visualize supplementary angles to help find the angle measurements

Find the missing angle measurements:

① 145° 35°
35° 145°

② 100°
80  2x-10

$$80 = 2x - 10$$
$$\frac{+10}{90} \quad \frac{+10}{=2x}$$
$$\div 2 \quad \frac{2x}{2}$$

$$x = 45$$

Points A′, B′, and C′ are the images of 180-degree rotations of A, B, and C, respectively, around point O.

∠BOC′ __66°__

∠AOB′ __79°__

∠COB′ __66°__

∠AOC __35°__

B
66° C′
A
79° 35°  A′
35° O
79°
C 66°
B′