Friday, September 12

Objective

SWBAT-

Review properties of vertical angles

DO NOW

∠1 and ∠2 are complementary
∠ 2 and ∠ 3 are supplementary.
Given m∠ 1, find m∠ 2 and m∠ 3

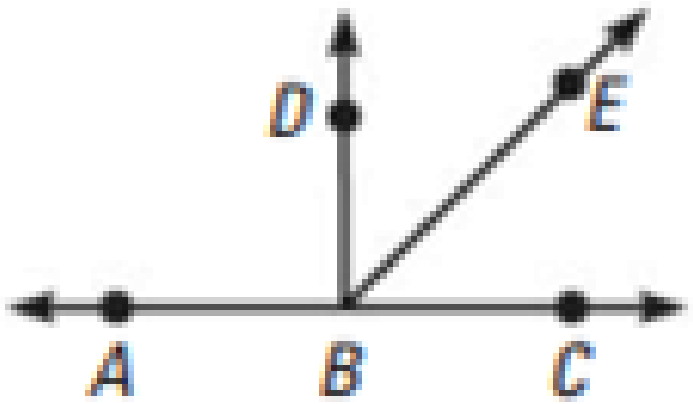
① $m\angle 1 = 80°$
② $m\angle 2 =$
③ $m\angle 3 =$

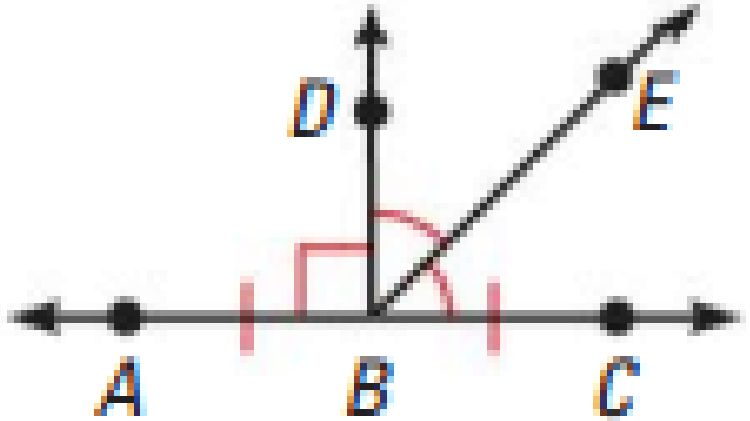
∠A and ∠B are complementary angles.
Find m∠A and m∠B.

④ $m\angle A = x°$

⑤ $m\angle B = (2x - 75)°$

1.5 Angle Pair Relationships





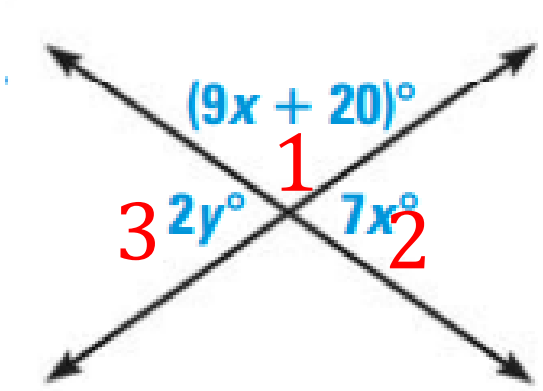
There are some things you can conclude from a diagram, and some you cannot. For example, here are some things that you can conclude from the diagram on the left:

- Points A, B, and C are collinear, and B is between A and C.
- $\overleftrightarrow{AC}, \overleftrightarrow{BD}$, and $\overleftrightarrow{BE}$ intersect at point B.
- ∠DBE and ∠EBC are adjacent angles, and ∠ABC is a straight angle.

- $\overrightarrow{AB} \cong \overrightarrow{BC}$
- ∠DBE ≅ ∠EBC
- ∠DBE and ∠EBC are complementary

1.5 Angle Pair Relationships

Find the value of x and y. Then find the measure of the angles



What information can we obtain from the diagram?

∠1 and ∠2 are supplementary

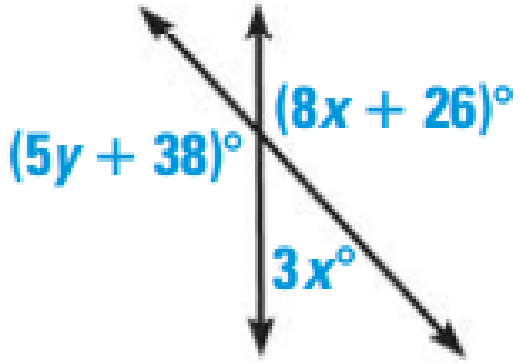
∠2 and ∠3 are vertical angles

$$\angle 1 + \angle 2 = 180°$$
$$9x + 20 + 7x = 180°$$
$$16x + 20 = 180°$$
$$-20 \quad -20$$
$$\frac{16x}{16} = \frac{160°}{16}$$
$$x = 10°$$

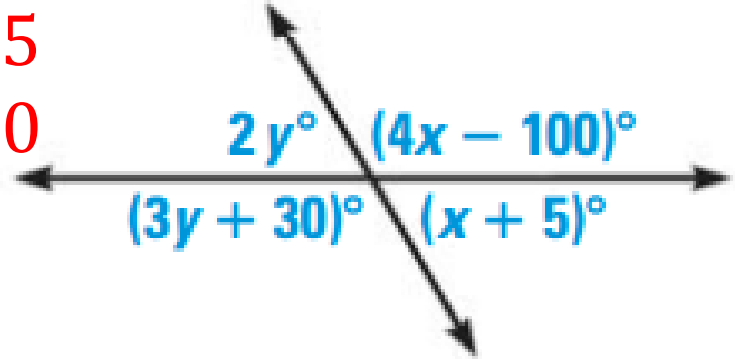
$$\angle 2 = \angle 3$$
$$2y = 7x$$
$$\frac{2y}{2} = \frac{70}{2}$$
$$y = 35$$

1.5 Angle Pair Relationships

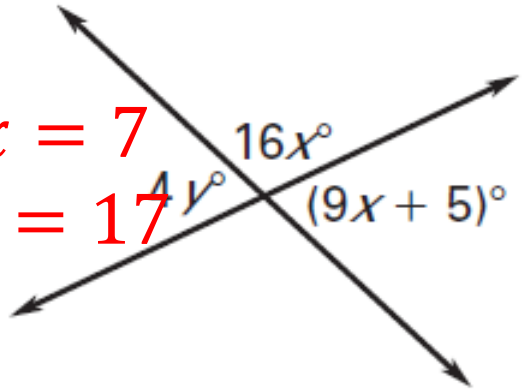
$x = 14$
$y = 20$



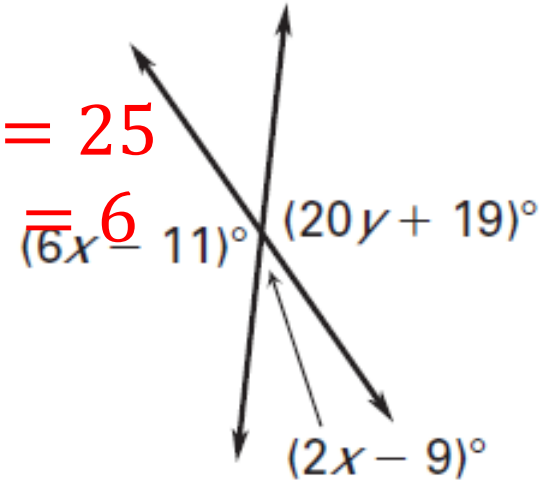
$x = 55$
$y = 30$



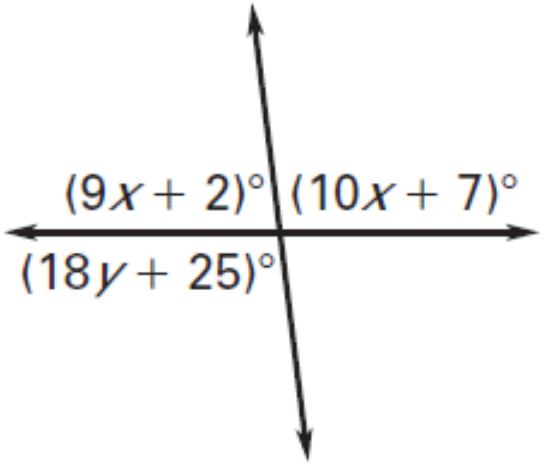
$x = 7$
$y = 17$



$x = 25$
$y = 6$



$x = 9$
$y = 4$



1.5 Angle Pair Relationships

SHADOWS The length of a shadow changes as the sun rises. In the diagram below, the length of $\overline{CB}$ is the length of a shadow. The end of the shadow is the vertex of $\angle ABC$, which is formed by the ground and the sun's rays. *Describe* how the shadow and angle change as the sun rises.