Lesson 2.06 – "On Your Own" Worksheet   Name: __Key__
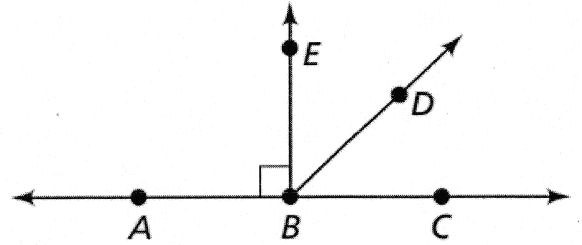
1. Use the figure to find the measure of each angle.

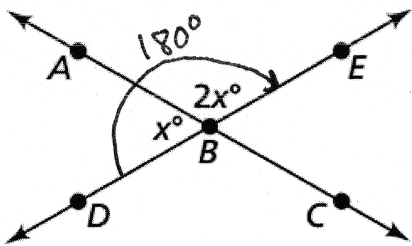 **a.** $m\angle EBC$ $m\angle EBC = 90°$

  b. $m\angle ABD$ if $m\angle CBD = 43°$ $m\angle ABD = 137°$

  c. $m\angle EBD$ if $m\angle CBD = 43°$ $m\angle EBD = 47°$

2. Use the figure to find $m\angle ABE$.
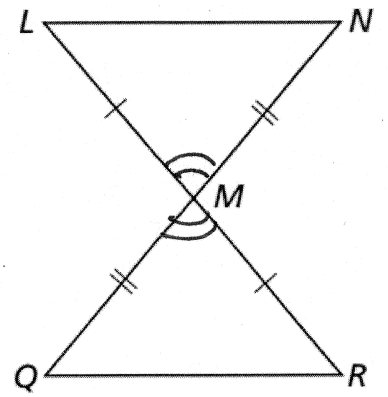

$x + 2x = 180°$

$3x = 180$

$x = 60$

$m\angle ABE = \underline{120°}$

3. Use the figure to find $m\angle QRP$.
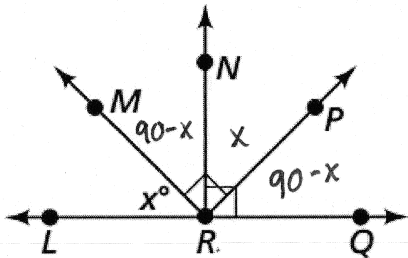
$m\angle QRP = \underline{(90-x)°}$

4. Below is an incomplete proof that $\angle L \cong \angle R$ in the figure. Complete the proof by providing the missing reasons.
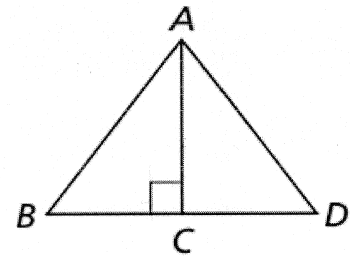
Statement	Reason
a. $\overline{LM} \cong \overline{RM},\ \overline{NM} \cong \overline{QM}$	Given
b. $\angle LMN \cong \angle RMQ$	Vertical Angle Theorem
c. $\triangle LMN \cong \triangle RMQ$	SAS $\cong$
d. $\angle L \cong \angle R$	CPCTC

(corresponding Parts of Congruent Triangles are congruent)

5. In the figure, $\boxed{\triangle ABC \cong \triangle ADC.}$ List three statements you can prove.
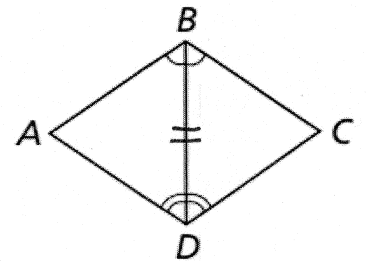
↖ Triangles are $\cong$!

Example Answers

- $\overline{AB} \cong \overline{AD}$
- $m\angle ACD = 90°$
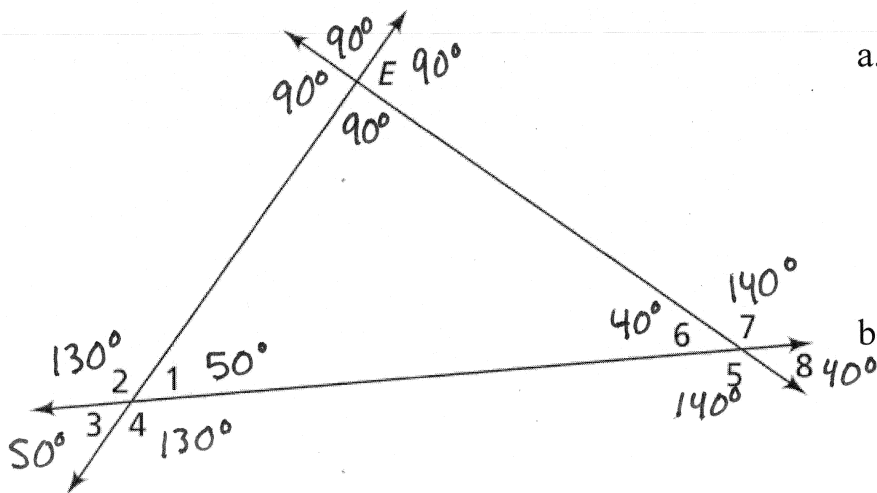- $\angle B \cong \angle D$
- $\angle BAC \cong \angle DAC$

6. Given the figure, prove that $\overline{AB} \cong \overline{CB}$.

Statement	Reason
1.) $\angle ABD \cong \angle CBD$ $\angle ADB \cong \angle CDB$	1.) Given
2.) $\overline{BD} \cong \overline{BD}$	2.) Segments $\cong$ to themselves
3.) $\triangle ABD \cong \triangle CBD$	3.) ASA $\cong$

4.) $\overline{AB} \cong \overline{CB} \longrightarrow$ CPCTC

7. Use the figure below. Suppose that $m\angle 1 + m\angle 6 = 90°$ and $m\angle 7 = 140°$.

90° 90° E 90° 90°

140°

40° 6 7 140° 8 40°

140°

130° 2 1 50°

50° 3 4 130°

a.) Find the measure of each numbered angle.

b.) Assume you know that the sum of the measures of the angles in a triangle is 180°. Find the measure of each angle around point E.