

Geometry CC - Unit 1
 Lesson 3: Unknown Angles - Transversals (Auxiliary Lines)
 MI.1.7
Homework: Finish Classwork Packet
HW Answers 1-2

5) $x = 27, y = 47$
 Consecutive adjacent angles on a line sum to 180°. Vertical angles are equal in measure.

6) $m\angle b = 47$
 Consecutive adjacent angles on a line sum to 180°.

7) $x = 60$
 Angles at a point add up to 360°.

8) $x = 20$
 Vertical angles have equal measures. Consecutive adjacent angles on a line sum to 180°.

9) $x = 16, y = 112$
 Consecutive adjacent angles on a line sum to 180°. Vertical angles are equal in measure.

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In each exercise below, find the unknown labeled angles. Give reasons for your solutions.

Diagram/Work	Reason
1.)	If parallel lines are cut by a transversal, then alternate interior angles are equal in measure.
$d + 35 = 180$ $d = 145$	Linear pairs form supplementary angles.

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2.)

$e = 54$
 $112 + f = 180$
 $f = 68$

3.)

$m = 46$
 $j = 92$
 $k = 42$

If parallel lines are cut by a transversal, then alternate interior angles are equal.
 Vertical angles are equal in measure.
 If two lines are parallel, same side interior angles are supplementary.

97

4.)

97

Auxiliary Lines

- can be drawn into a diagram to help modify the diagram. Drawing auxiliary lines are helpful when solving for specific unknown measures.

5.)

$g = 36 + 56 = 92$

6.)

$h = 162 + 82 = 244$
 100

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