Geometry
Unit: Geometry Introduction
Section: Rays and Angles

Review Worksheet Key

1. Define the following. When appropriate, in your definition, describe what notation is used to write it.

a. Ray

A ray has one end point and extends indefinitely in the other direction. It is named with the endpoint and one other point, in that order, with an arrow pointing to the right above the two capital letters.

b. Angle

An angle is made up of two rays which share a common endpoint. An angle can be named using just the vertex (if it is the only angle with that vertex) or using three points, one on each ray and the vertex. The vertex is always the middle letter written.

c. Acute Angle

An acute angle measures greater than 0 degrees, but less than 90 degrees.

d. Obtuse Angle

An obtuse angle measures greater than 90 degrees, but less than 180 degrees.

e. Right Angle

A right angle measures 90 degrees.

f. Straight Angle

A straight angle measures 180 degrees.

g. Reflex Angle

A reflex angle is greater than 180 degrees.

h. Complimentary Angles

Complimentary Angles add up to 90 degrees.

i. Supplementary Angles

Supplementary Angles add up to 180 degrees.

j. Congruent Angles

Congruent angles have equal measure.

2. Angle A and angle B are congruent. Angle A measures 5x + 12 degrees and angle B measure 2x + 30 degrees. Find the value of x.

$5x + 12 = 2x + 30$
$5x + 12 - 12 = 2x + 30 - 12$
$5x = 2x + 18$

5x – 2x = 2x + 18 – 2x
3x = 18
x = 6

3. Angle N and angle K are complimentary. Angle N measure 25 degrees and angle K measures 5x + 10 degrees. Find the value of x.
25 + 5x + 10 = 90
5x + 35 = 90
5x + 35 – 35 = 90 - 35
5x = 55
x = 11

4. Angle L and angle T are supplementary. Angle L measure 10x – 13 degrees and angle T measures 40x – 7 degrees. Find the value of x.
10x – 13 + 40x – 7 = 180
50x – 20 = 180
50x – 20 + 20 = 180 + 20
50x = 200
x = 4

5. Describe the steps to construct an angle bisector.
Step 1. Place a compass at the vertex and draw two arcs such that they intersect the sides of angle at A and B.
Step 2. Place the compass at B and draw an arbitrary arc such that it passes through an interior point of angle.
Step 3. Place the compass at A, without changing its radius, and draw another arc. These arcs intersect at M.
Step 4. Using a straightedge, draw a line from the vertex through M. This line is the bisector of the angle.