5.2 Perpendicular and Angle Bisectors

Objective: To use properties of perpendicular and angle bisectors

Perpendicular Bisector - a line, segment, or ray that cuts a line segment into two congruent parts at 90°

Perpendicular Bisector Theorem – if a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment.

Examples:

1. Solve for $x$

   ![](image1)

   \[7x + 10\]

   \[9x - 2\]

2. Solve for $x$

   ![](image2)

   \[3x - 8\]
Angle Bisector – a line, ray, or segment that cuts an angle into two congruent parts

Angle Bisector Theorem – if a point is on the bisector of an angle, then the point is equidistant from the side of the angles

Examples:

1. Solve for $x$

2. 

Diagram showing angle bisector and angle measures.