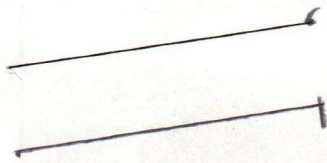


Notes 8.2 Geometry Constructions & Congruence

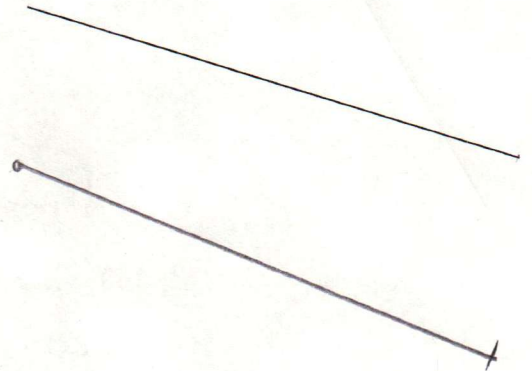
Warmup

1. Copy each given line segment.

a.

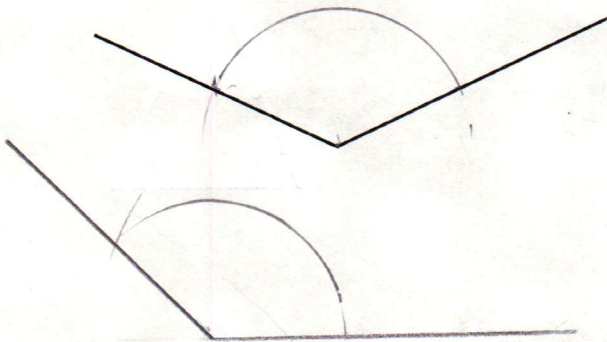


b.

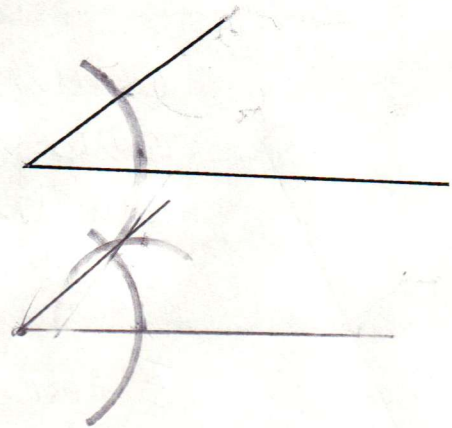


2. Copy each given angle.

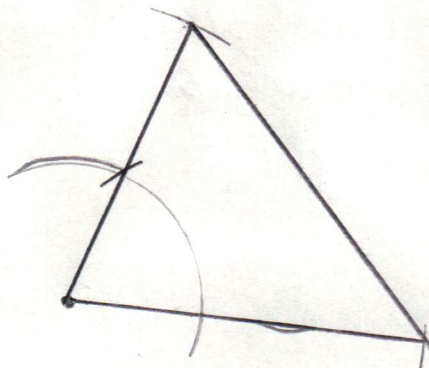
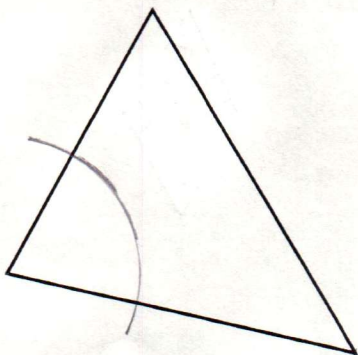
a.




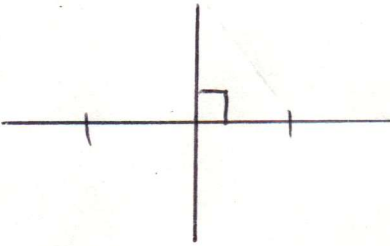

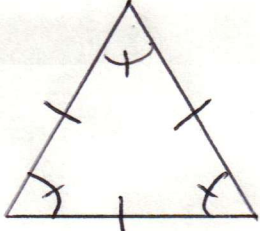

b.



3. Copy the given triangle.



Vocabulary

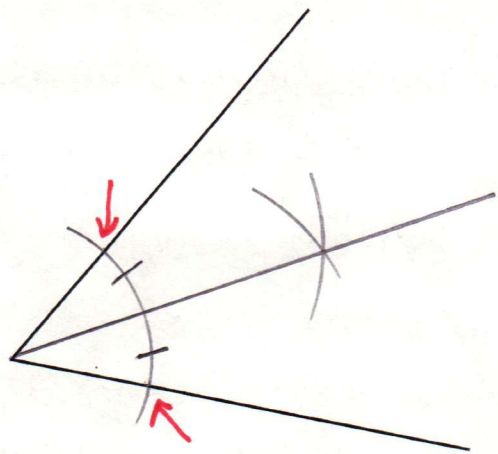
Word	Meaning/Notation	Example
Angle Bisector	a line that cuts an angle in half	
Perpendicular Bisector	a line that cuts a line segment in half, making two perpendicular lines <div style="text-align: center;"> \uparrow 90° </div>	
Isosceles Triangle	a triangle with two sides of equal length, and two angles of equal measure.	
Equilateral Triangle	a triangle with three equal sides and three equal angles	
Rhombus	A parallelogram with four equal sides and opposite angles are congruent	

Tools:

Bisect an Angle

Steps:

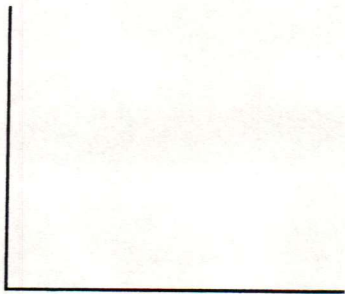
1. make an arc through the angle
2. Use intersection points to make new arcs that form an x
3. Draw line from vertex through x
4. make congruence marks



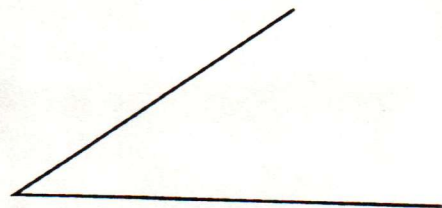
Practice:

Bisect each of the given angles

a.



b.



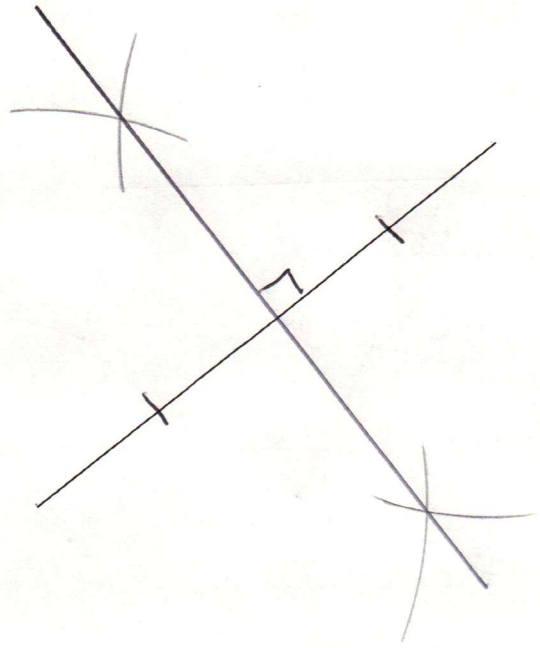
c.



Make a Perpendicular Bisector

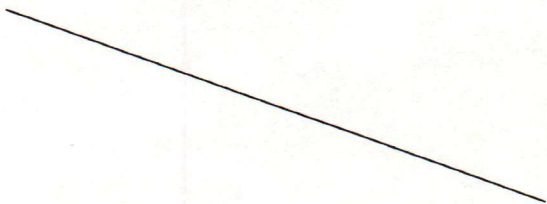
Steps:

1. open compass more than $\frac{1}{2}$ the distance of the line
2. Make arcs on both sides of line to form an X above & below the line
3. Draw line segment that goes through X's
4. Make congruence marks and a right angle symbol



Practice:

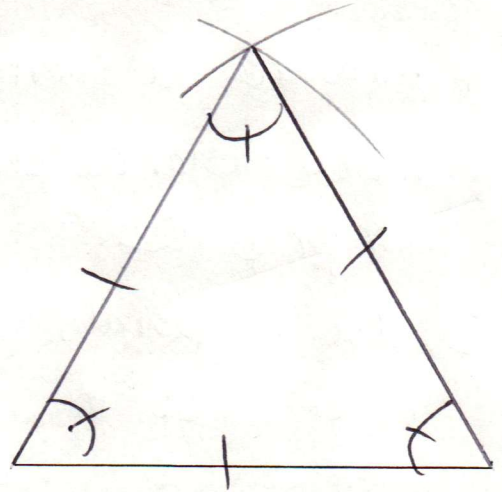
Draw a Perpendicular Bisector for each given line.



Create an Equilateral Triangle.

Steps:

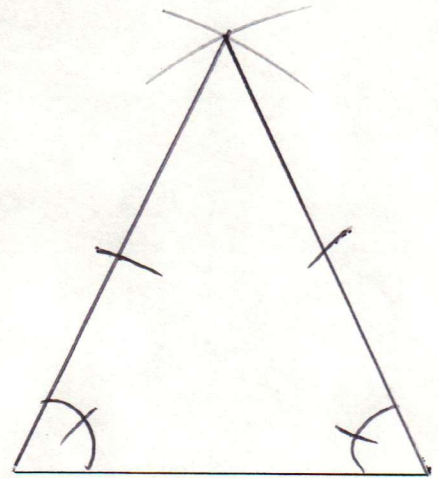
1. open compass to length of line segment
2. From each endpoint make an arc to form an x
3. Connect endpoints with x
4. Make congruence marks



Create an Isosceles Triangle.

Steps:

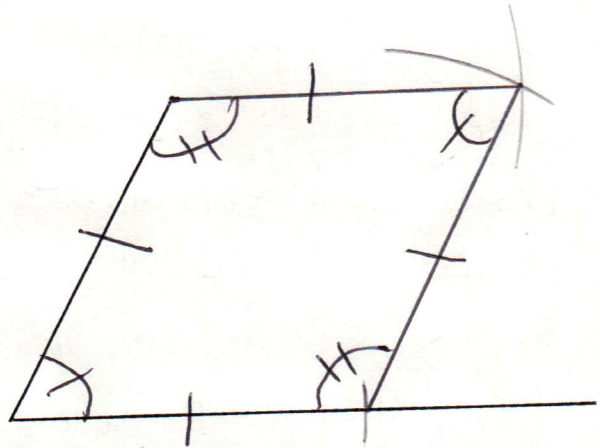
1. open compass more than half the distance, but not equal
2. } same as
3. } equilateral
- 4 }



Create a Rhombus.

Steps:

1. measure the shorter side
2. mark distance on longer side
3. Use endpoints make arcs to get an x
4. Connect endpoints to the x
5. Make congruence marks



Create one of the three shapes we made from the given line. Then identify the shape.
