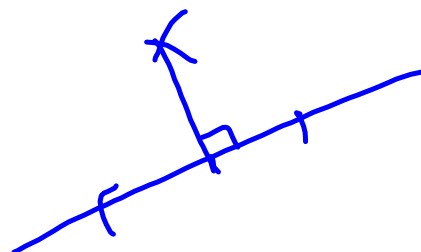


## Angle Constructions... 1) Perpendicular Bisector

### STEP 1:

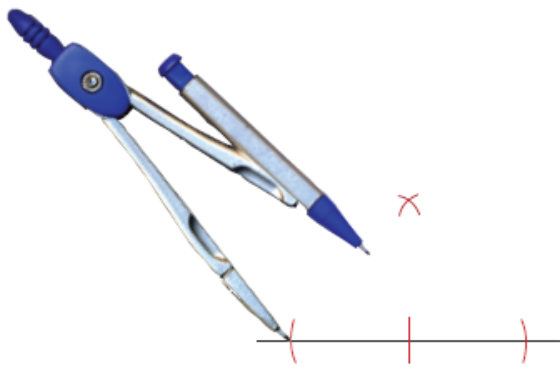
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Put the compass point at the mark you made. Open the compass slightly and make two more marks on each side of the first mark. Ensure they are the same distance from the first mark.



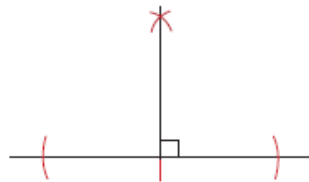
## STEP 2:

Widen the compass a bit more, and place the compass point at one of the new marks. Make a small arc, then do the same thing after placing the compass point at the other new mark. Ensure the two arcs intersect each other.

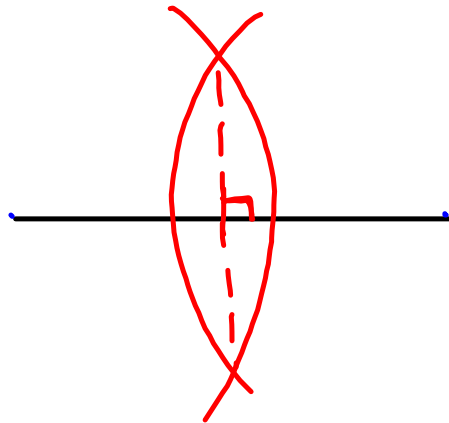


**STEP 3:**

Draw a line segment that goes between or through the point where the arcs intersect and the first mark you made. The two line segments are perpendicular to each other, and therefore form a  $90^\circ$  (right) angle.

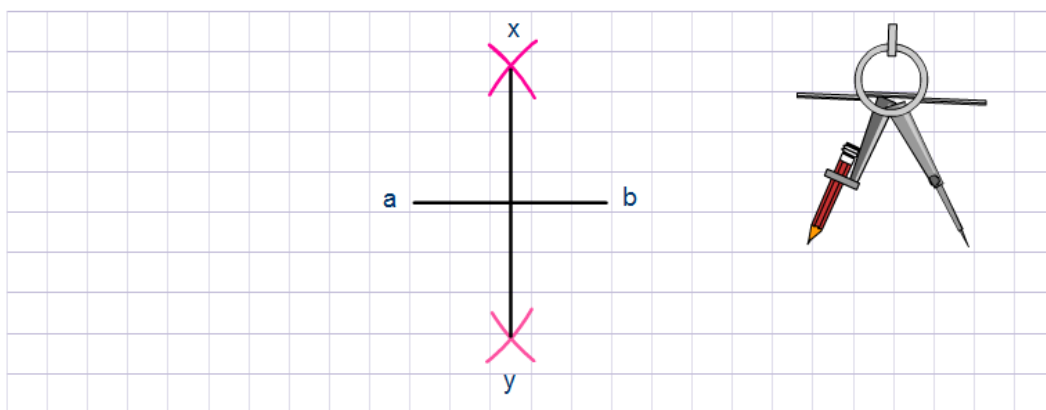


$90^\circ$   
Perpendicular Bisector



### Bisecting Lines

Scene 6 of 6



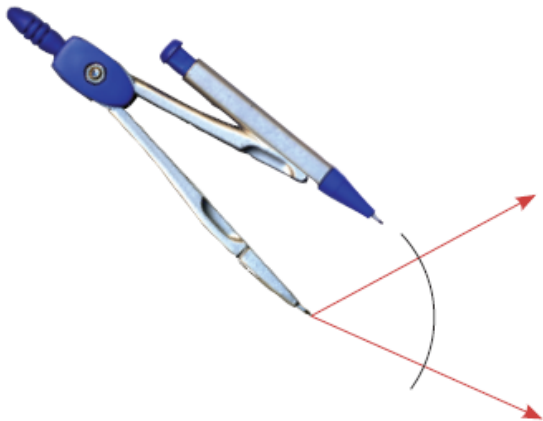
- Draw a line from 'x' to 'y'. This line is the perpendicular bisector of the line segment 'ab'.

## Angle Constructions... 2) Replicate an Angle

### STEP 1:

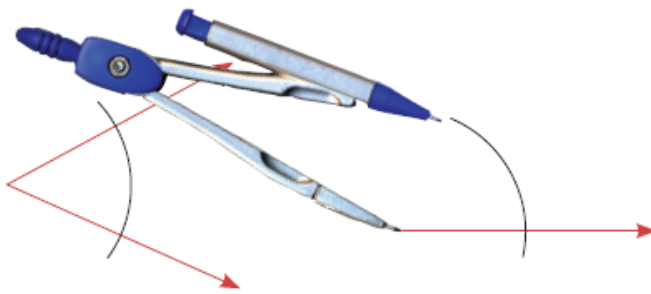
b) To replicate any existing angle, follow these steps.

Use a compass to lightly draw an arc centred at the vertex of the original angle.



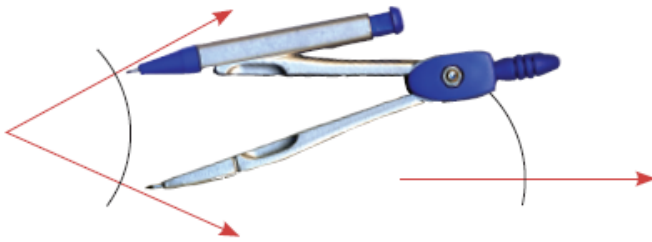
**STEP 2:**

Use a ruler to draw one side of the new angle, and draw an arc of the same radius and arc length as the one you just drew on the original angle.



### STEP 3:

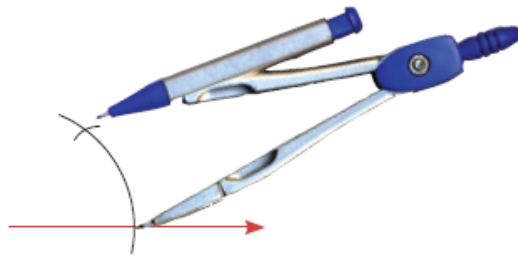
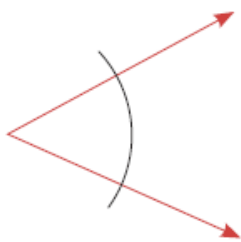
Bring the compass up to the original angle, and set it so that its point and the tip of the pencil touch the points where the original arc intersects the sides of the angle.





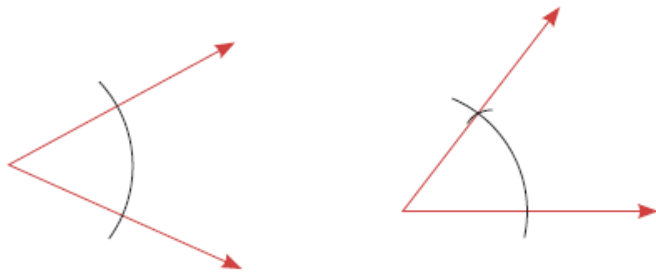
**STEP 4:**

Place the compass point over to the point of intersection of the side of the new angle and the new arc. Draw a short arc through the new arc.

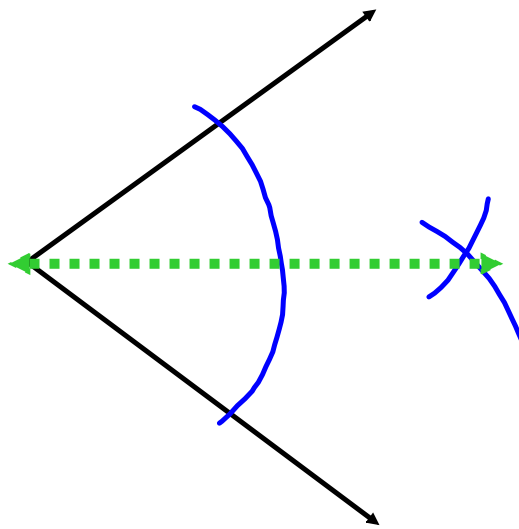


**STEP 5:**

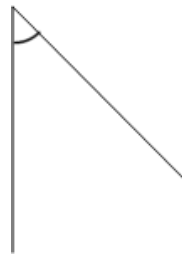
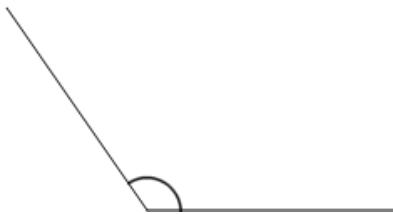
Use the ruler to draw the other side of the angle, from the left end of the first side (the vertex) through the point of intersection of the two arcs. The result is a new angle with the same measure as the original.



Bisecting  
an  
Angle



**Let's try a few...**



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