



# 3055 BA SANGAM COLLEGE

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## WORKSHEET 16

SCHOOL: BA SANGAM COLLEGE

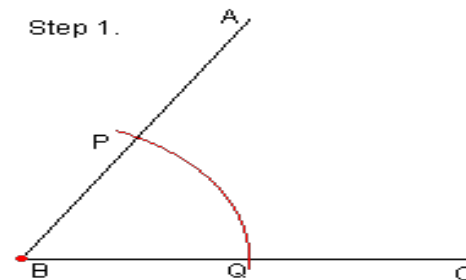
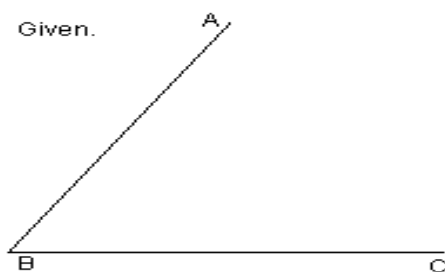
YEAR: 10

SUBJECT: MATHEMATICS

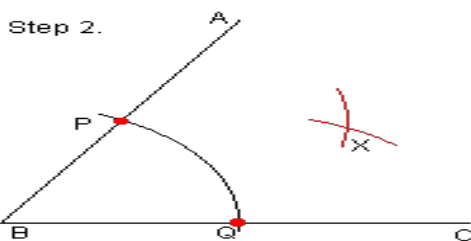
NAME OF STUDENT: \_\_\_\_\_

STRAND	4- GEOMETRY
SUB-STRAND	4.4- Constructions
LEARNING OUTCOME	<ul style="list-style-type: none"><li>To construct various special angles</li></ul>

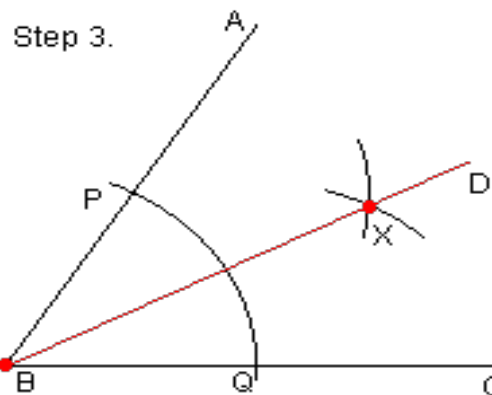
**Angle Bisector- Step 1** With the compass point at the center of the vertex of the angle, draw an arc with radius of any length. The arc must be intersecting both sides of the angle. Label the intersection points



**STEP 2**-Place the compass point at point P, draw an arc of any length within lines AB and BC. Place the compass at point Q and do the same. The radius of the second arc must be the same as the first and the two arcs must be long enough to intersect at a point X



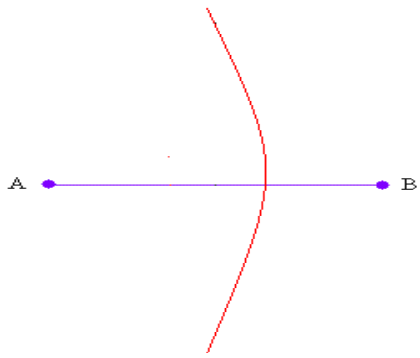
**Step 3** -Draw a straight line from the centre of the vertex through the point of intersection X.



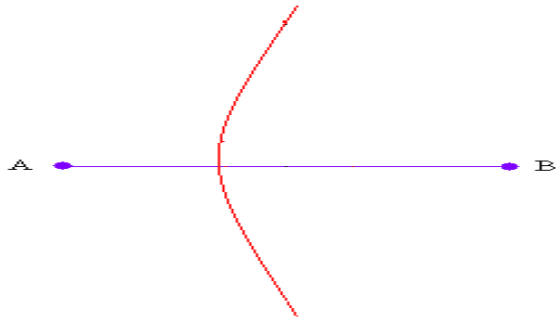
### Constructing the midpoint of a line segment

The midpoint of a line segment is its middle point which is equidistant from the end points. Constructing the midpoint of a segment is considered to be quite simple and easier than any other straightedge construction.

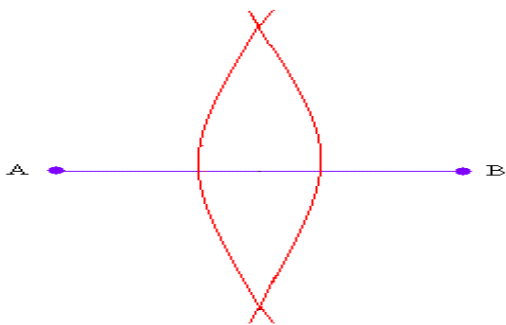
**Step 1** -Draw line segment AB. Place the compass point at point A and with the width of more than half the length of AB draw an arc from a point above AB right down to a point below AB



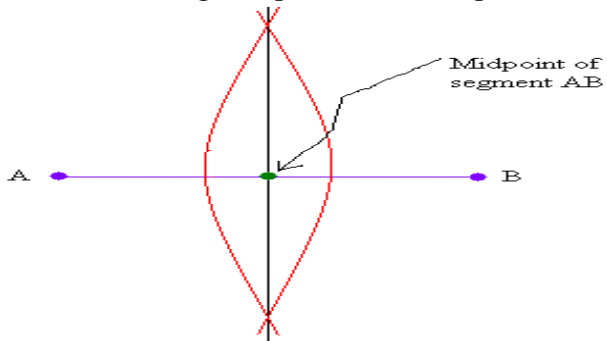
Step 2 - Now place the compass point at B and draw an arc



The two arcs should intersect above and below AB

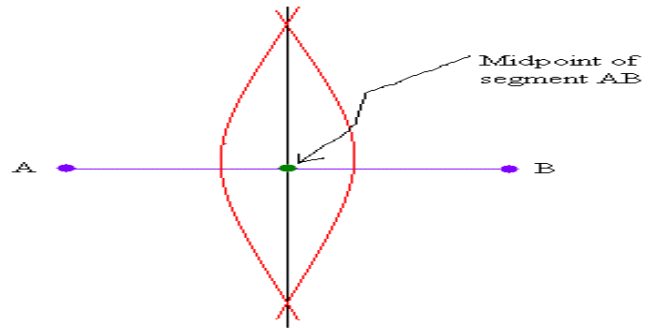


STEP 3-Draw a straight line joining the two - point intersection. The point of intersection of the vertical line and the line segment AB shown with a green point is the midpoint



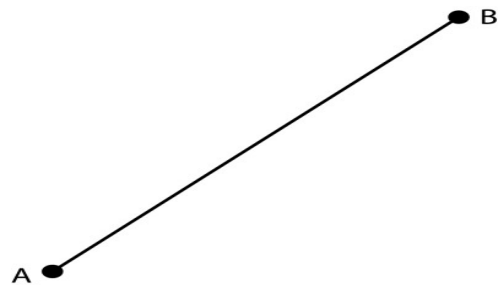
### Constructing the Mediator of a line segment

A **mediator** is the same as a **perpendicular bisector**, The bisector of segment AB is the line perpendicular to this segment which passes through its midpoint



### EXERCISE

1. Bisect a  $30^\circ$  angle
2. Bisect a  $45^\circ$  angle
3. Bisect the line segment AB given below



4. Construct the bisector of  $\angle N$

