Quick Review
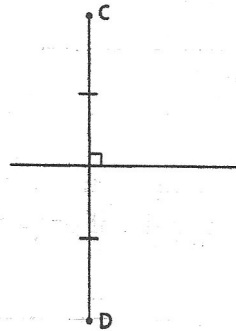
When you draw a line to divide a line segment into two equal parts, you *bisect* the segment. The line you drew is a *bisector* of the segment.
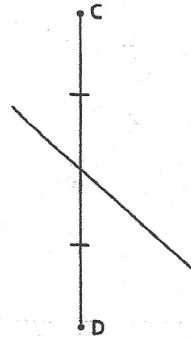
When the bisector is drawn *perpendicular* to the segment, the line is the *perpendicular bisector* of the segment.

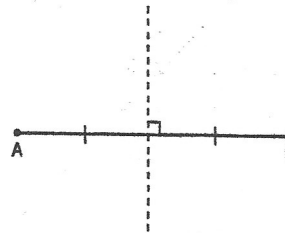Here are 2 strategies to draw a perpendicular bisector of line segment AB.

Using paper folding
Fold the paper so that point A lies on point B.
Crease along the fold.
Open the paper.
The fold line is the perpendicular bisector of AB.

Using a ruler and a protractor
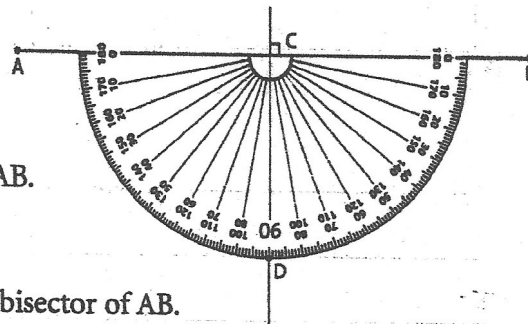➤ Use the ruler to measure the length of AB.
   Mark its midpoint C.
➤ Place the centre of the protractor on C.
   Align the base line of the protractor with AB.
   Mark a point D at 90°.
➤ Draw a line through CD.
   The line through CD is the perpendicular bisector of AB.

Practice

1. Match each term with its definition.

   a) right angle

   b) bisector

   c) perpendicular bisector

   d) diagonal

   a line segment that joins two vertices of a shape, but is not a side

   a 90° angle
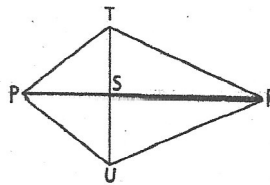
   a line that divides a line segment into two equal parts

   a line that is perpendicular to a line segment and divides the segment into two equal parts

2. Identify the perpendicular bisector in this kite.
   How do you know the segment you identified is a perpendicular bisector?
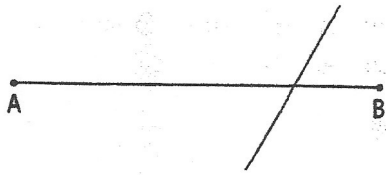
   _____

   _____

3. Draw any line segment MN.
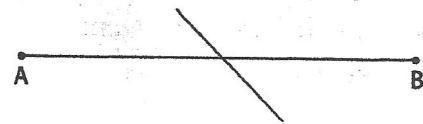   Use any method you like to draw the perpendicular bisector of MN.
   Explain your strategy.

   _____

   _____

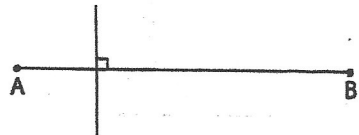   _____

4. Has each line segment AB been bisected?
How do you know?

a) _____

A ●————————————/————————● B

b) _____

_____

A ●————————/————————————————● B

c) _____

A ●———┐————————————————● B

d) _____

_____

A ●————————┐————————————● B
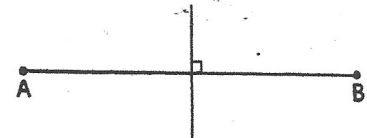
5. Look around you for examples of perpendicular bisectors. List 2 examples.

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_____

_____

_____

_____

6. Draw the perpendicular bisector of line segment GH.
Draw a bisector of line segment JK.

G •————————————• H   J •————————————• K

a) Why does a line segment have many bisectors?

_____

_____

b) Why does a line segment have only one perpendicular bisector?

_____

_____

7. Draw line segment PQ 10 cm long.
  a) Draw the perpendicular bisector of PQ.

  b) Choose three different points A, B, and C on the bisector.

   i) Measure PA and QA. _____

   ii) Measure PB and QB. _____

   iii) Measure PC and QC. _____

   iv) What do you notice about the measures in parts i, ii, and iii? Explain.

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