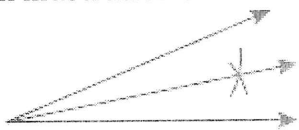


1) Which illustration shows the correct construction of an angle bisector?

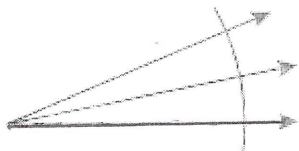
1)



3)



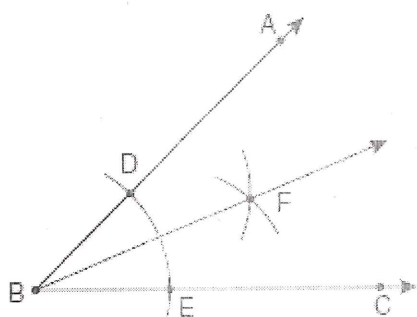
2)



4)



2) The diagram below shows the construction of the bisector of  $\angle ABC$ . Which statement is not true?



1)  $m\angle EBF = \frac{1}{2} m\angle ABC$

3)  $m\angle EBF = m\angle ABC$

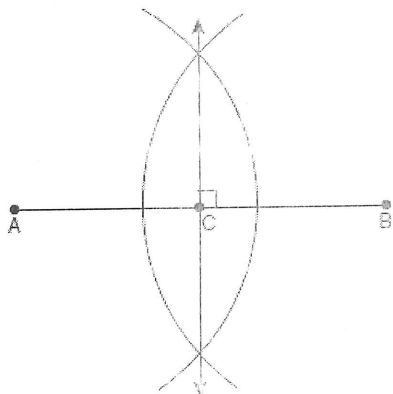
2)  $m\angle DBF = \frac{1}{2} m\angle ABC$

4)  $m\angle DBF = m\angle EBF$

3) One step in a construction uses the endpoints of  $\overline{AB}$  to create arcs with the same radii. The arcs intersect above and below the segment. What is the relationship of  $\overline{AB}$  and the line connecting the points of intersection of these arcs?

- 1) collinear
- 2) congruent
- 3) parallel
- 4) perpendicular

4) The diagram below shows the construction of the perpendicular bisector of  $\overline{AB}$ . Which statement is not true?



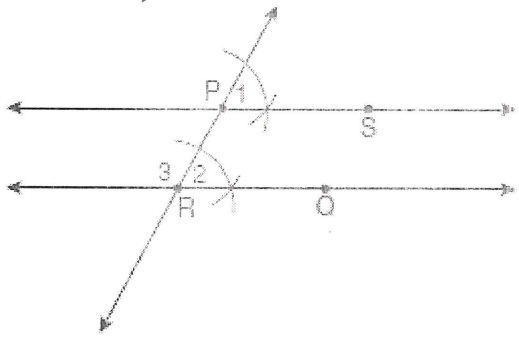
1)  $AC = CB$

2)  $CB = \frac{1}{2} AB$

3)  $AC = 2AB$

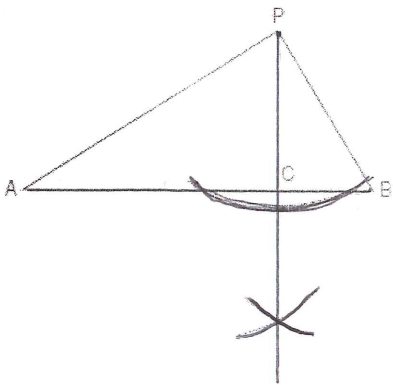
4)  $AC + CB = AB$

5) The diagram below illustrates the construction of  $\overleftrightarrow{PS}$  parallel to  $\overleftrightarrow{RQ}$  through point  $P$ . Which statement justifies this construction?



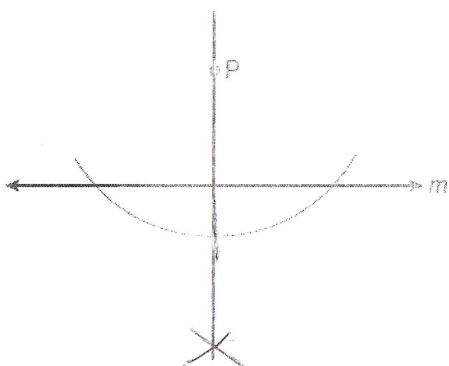
- 1)  $m\angle 1 = m\angle 2$
- 2)  $m\angle 1 = m\angle 3$
- 3)  $\overline{PR} \cong \overline{RQ}$
- 4)  $\overline{PS} \cong \overline{RQ}$

6) In the accompanying diagram of a construction, what does  $\overline{PC}$  represent?



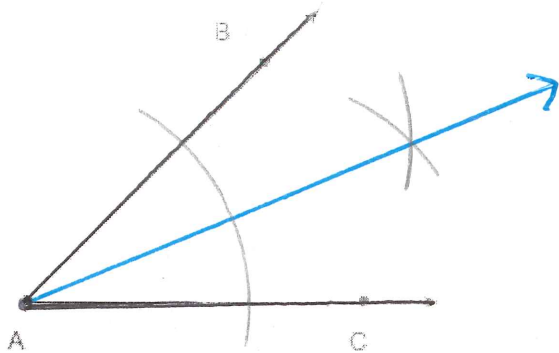
- 1) an altitude drawn to  $\overline{AB}$
- 2) a median drawn to  $\overline{AB}$
- 3) the bisector of  $\angle APB$
- 4) the perpendicular bisector of  $\overline{AB}$

7) The diagram below shows the construction of a line through point  $P$  perpendicular to line  $m$ . Which statement is demonstrated by this construction?

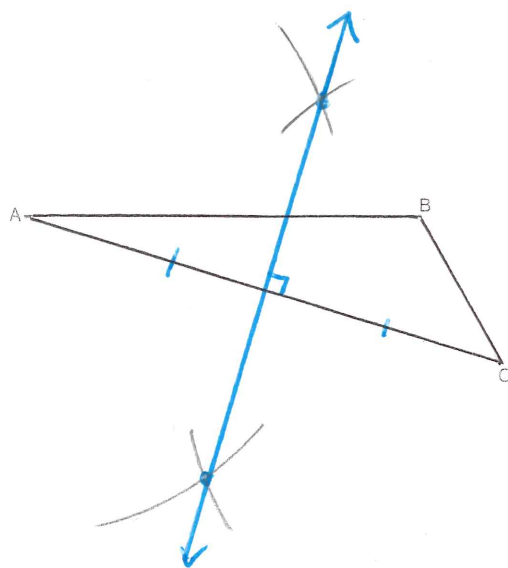


- 1) If a line is parallel to a line that is perpendicular to a third line, then the line is also perpendicular to the third line.
- 2) The set of points equidistant from the endpoints of a line segment is the perpendicular bisector of the segment.
- 3) Two lines are perpendicular if they are equidistant from a given point.
- 4) Two lines are perpendicular if they intersect to form a vertical line.

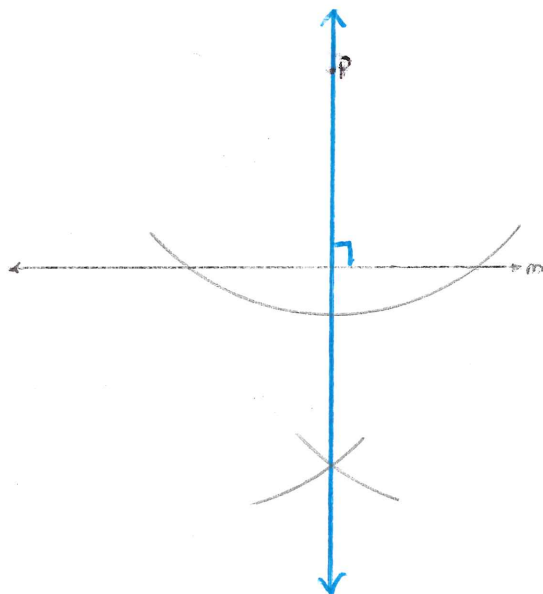
8) Using only a ruler and compass, construct the bisector of angle  $BAC$  in the accompanying diagram.



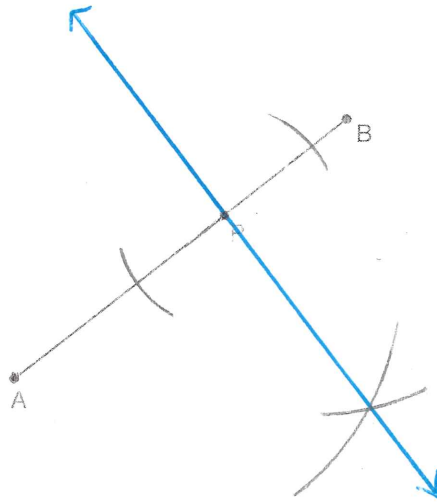
9) On the diagram of  $\triangle ABC$  shown below, use a compass and straightedge to construct the perpendicular bisector of  $AC$ . [Leave all construction marks.]



10) Using a compass and straightedge, construct a line that passes through point  $P$  and is perpendicular to line  $m$ . [Leave all construction marks.]



11) Using a compass and straightedge, construct a line perpendicular to  $\overline{AB}$  through point  $P$ . [Leave all construction marks.]



12) On the line segment below, use a compass and straightedge to construct equilateral triangle  $ABC$ . [Leave all construction marks.]

