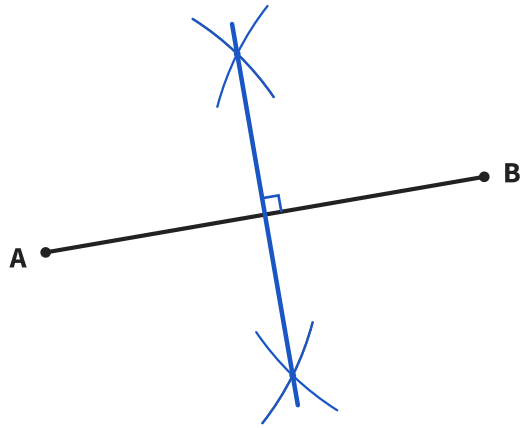
Perpendicular Bisector and Angle Bisector

ANSWERS

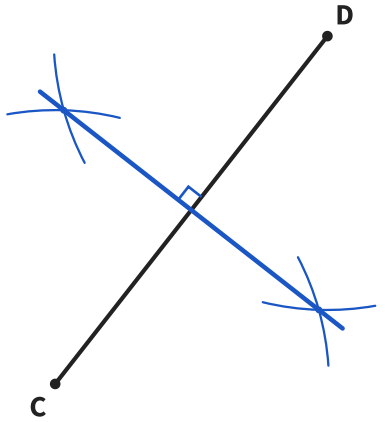
1 The arcs from A are drawn. Keep the same width.

Construct the perpendicular bisector of AB. Leave your arcs showing.



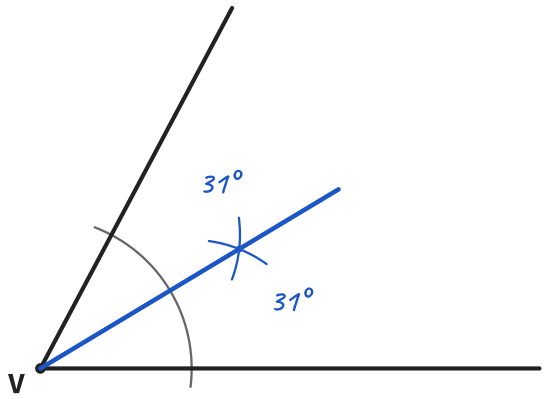
2

Construct the perpendicular bisector of CD. Leave your arcs showing.



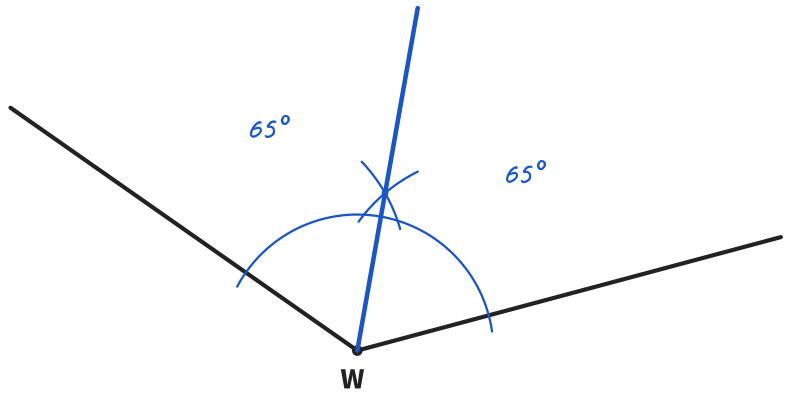
3 *Notice the change!* The first arc is drawn.

Construct the bisector of the angle. Leave your arcs showing.



4

Construct the bisector of the angle. Leave your arcs showing.

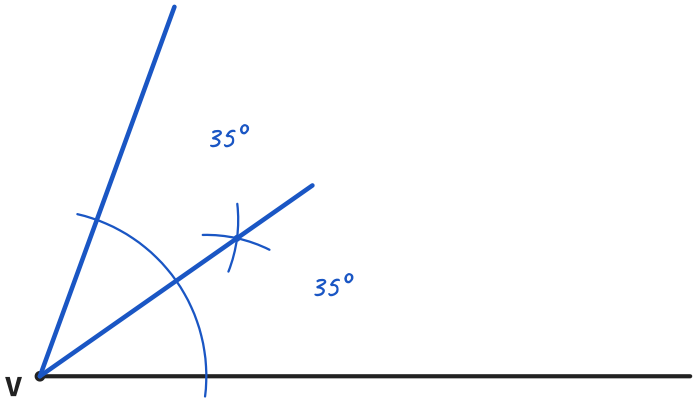


Perpendicular Bisector and Angle Bisector

ANSWERS

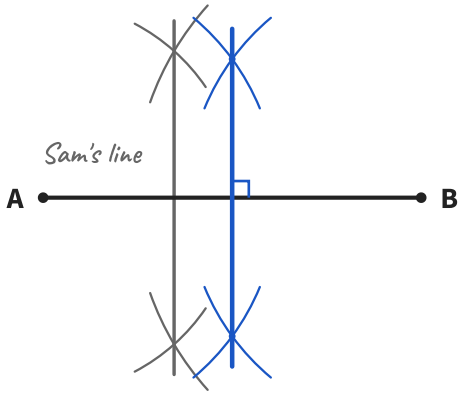
5 *Notice the change!*

Use a protractor to draw an angle of 70° at V. Construct its bisector, then measure each half. Write the halves on your drawing.



6

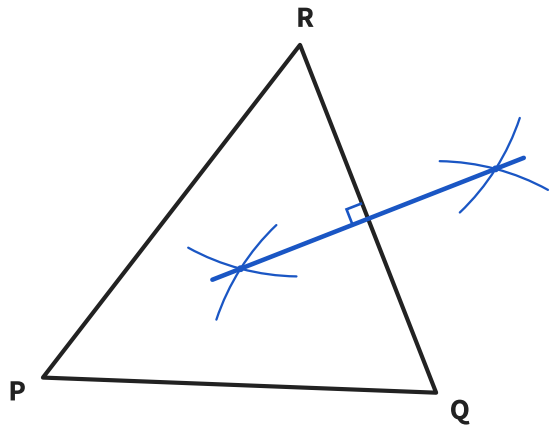
Sam tried to construct the perpendicular bisector of AB. Explain his mistake, then construct it correctly.



Answer *He changed the width: his arcs from B are wider than his arcs from A. Keep the compasses the same.*

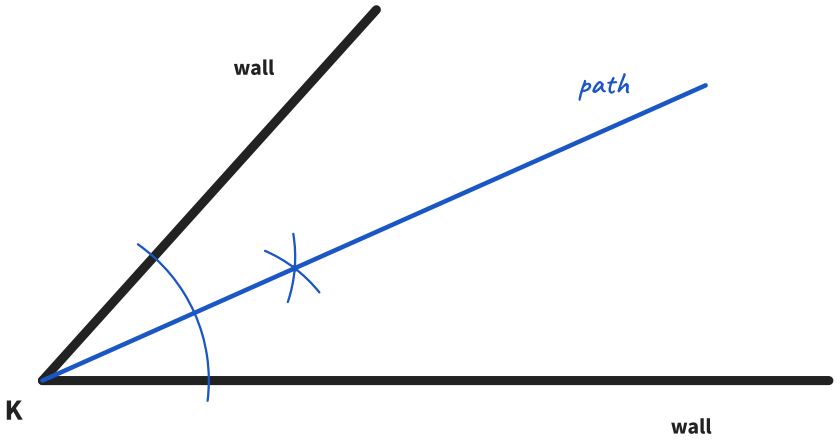
7

Construct the perpendicular bisector of the side QR. Leave your arcs showing.



8

Two straight walls meet at the corner K. A straight path will run exactly between them. Construct the path.

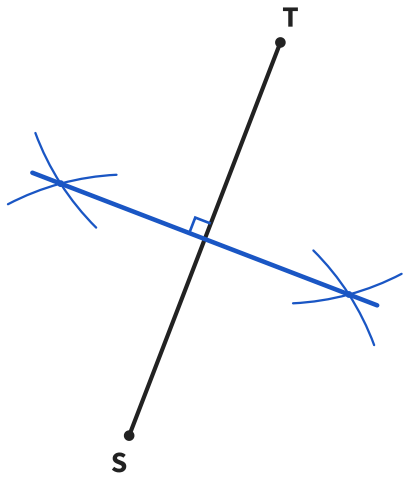


Perpendicular Bisector and Angle Bisector *further practice*

ANSWERS

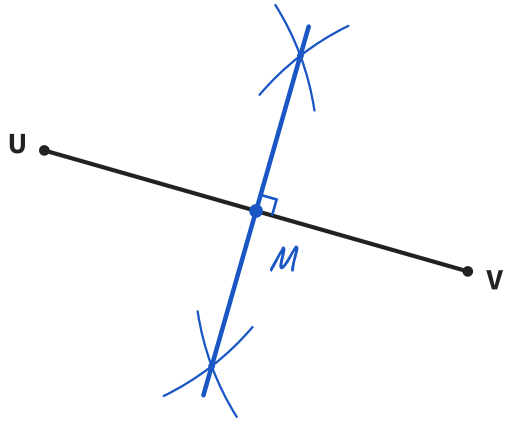
9

Construct the perpendicular bisector of ST. Leave your arcs showing.



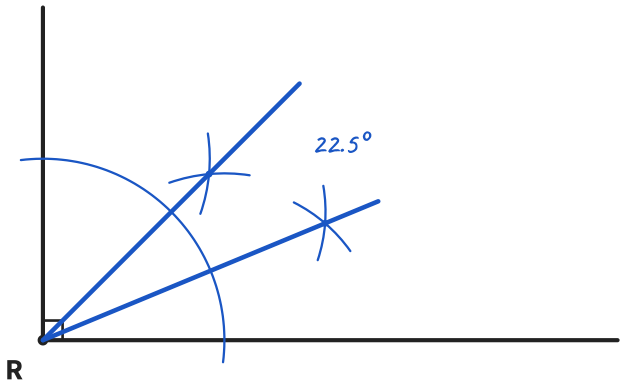
10

Find the midpoint of UV by construction. Mark it M.



11

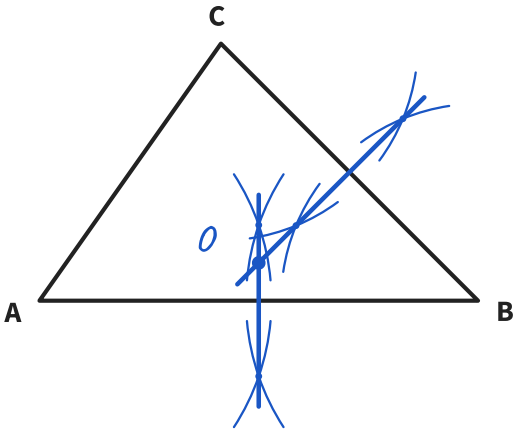
Bisect the right angle at R. Then bisect one of the two angles you made. What size is the smallest angle now?



Smallest angle = 22.5°

12

Construct the perpendicular bisectors of AB and BC. Mark O where they cross. Measure OA, OB and OC. What do you notice?



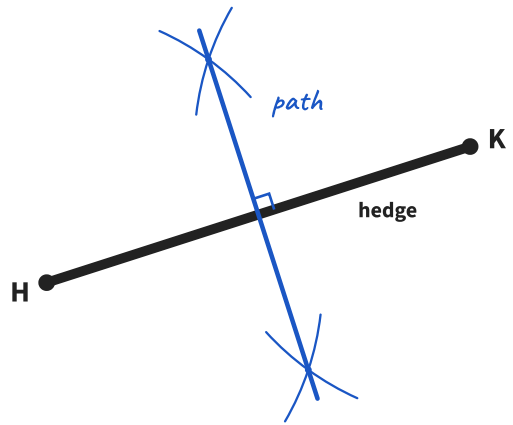
Answer They are all the same length.

Perpendicular Bisector and Angle Bisector *further practice*

ANSWERS

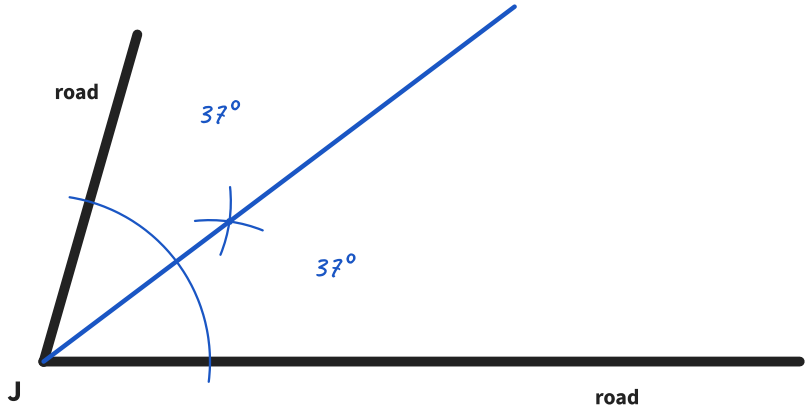
13

A straight hedge runs between the posts H and K. A path will cross it exactly halfway along, at right angles. Construct the path.



14

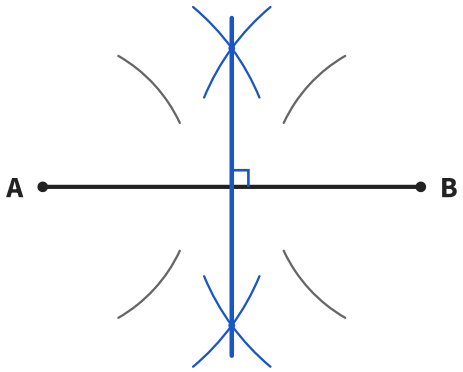
Two straight roads meet at the junction J at 74°. A cycle lane will run exactly between them. Construct the lane. What angle does it make with each road?



Angle = 37°

15

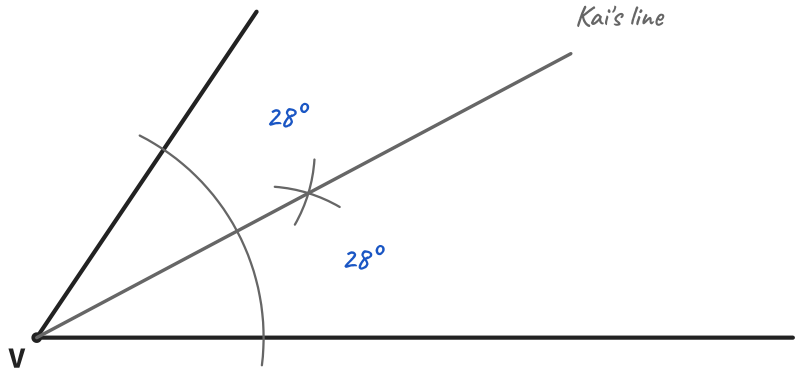
Ali tried to construct the perpendicular bisector of AB but got stuck. What did he do wrong? Construct it correctly.



Answer His arcs never cross: he opened the compasses to less than half of AB.

16

Kai drew the first arc, then made his compasses smaller before drawing the arcs from both arms. Is his bisector right? Explain.



Answer Yes. Both arcs from the arms use the same width, so they meet on the bisector.