

Constructions and loci

NAILIT!

You need to be able to perform the following constructions using only compasses and a ruler:

- perpendicular bisector of a line segment
- perpendicular to a given line at a given point
- angle bisector.

NAILIT!

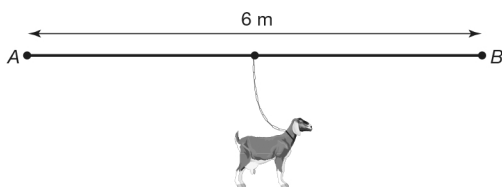
In loci questions, you have to draw a path or shade a possible area.

- ① Draw the locus of the point that is always the same distance from points A and B . (2 marks, ★★)

Construct the perpendicular bisector of AB .



- ② A goat is secured by a chain of length 1.5 m and a loop on a bar of length 6 m. The loop can travel anywhere along the length of the bar.

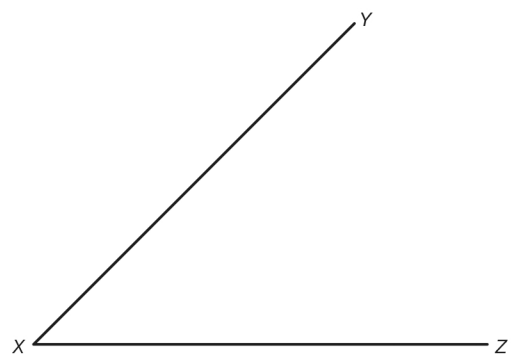


Draw an accurate diagram using a scale of 1 cm to 1 m to show the area in which the goat can graze. Shade the area. (3 marks, ★★★)

- ③ The diagram below shows two walls, XY and XZ , at an angle to each other.

A spider waits at point X . It then moves along a path such that its distance to lines XY and YZ is the same. (★★★)

- a Using only compasses and a ruler, draw the path of the spider on the above diagram. You should show all your construction lines. (2 marks)



- b A fly walks along a path between the two walls so that the distance from point X is always 6 cm. Mark the point between the walls where it is possible for the spider's and the fly's paths to cross. (2 marks)

[Total: 4 marks]