

Loci: Choosing the Construction

ANSWERS

1 Underline the rule.

A tap must be the same distance from the gate G and the gate H.



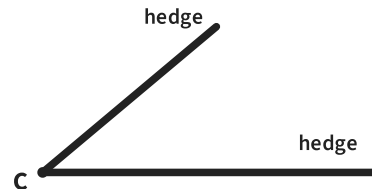
Rule the same distance from G and H

From ☐ a point ☐ a line ☒ two points
☐ two lines

Construction Perpendicular bisector

2

A path across the park stays the same distance from the two straight hedges that meet at the corner C.



Rule the same distance from two hedges

From ☐ a point ☐ a line ☐ two points
☒ two lines

Construction Angle bisector

3

A goat is tied to a post P with a rope 4 m long. Show where it can reach.



Rule up to 4 m from P

From ☒ a point ☐ a line ☐ two points
☐ two lines

Construction A circle (compasses)

4

A drone must fly exactly 20 m from the straight fence AB.



Rule exactly 20 m from the fence AB

From ☐ a point ☒ a line ☐ two points
☐ two lines

Construction Parallel lines with round ends

5 Notice the change!

A bench is the same distance from the trees T and U, and less than 5 m from the pond P. Name both constructions.



Rule 1 same distance from T and U: perpendicular bisector

Rule 2 less than 5 m from P: circle

6

The school bus picks up everyone who lives nearer to stop S than to stop R. Name the construction. Which side of it do you shade?

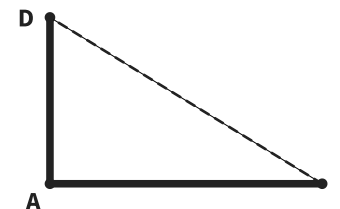


Construction Perpendicular bisector of SR

Shade The side with S in it

7

A lamp must be the same distance from the walls AB and AD. Sam bisects the line BD. Is Sam right?



Answer No. Two walls are two lines: bisect angle A

8

A phone mast M reaches 15 km. Scale: 1 cm represents 5 km. Name the construction. What width do you set the compasses to?



Construction A circle, centre M

Compasses 3 cm

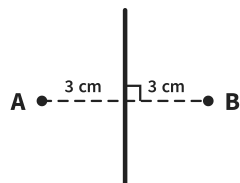
Loci: Choosing the Construction *further practice*

ANSWERS

9



Write the rule this locus shows.

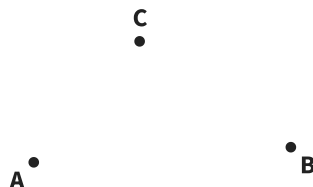


Rule The same distance from A and B

10



A hospital is to be the same distance from three towns A, B and C.
Which construction? How many times?



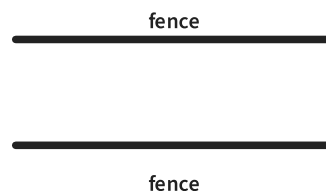
Construction Perpendicular bisector

How many Two (AB and BC); they cross at the hospital

11



A path runs the same distance from two straight fences that are parallel.
Which construction finds it?

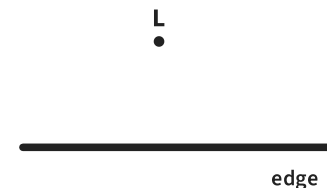


Construction Perpendicular bisector of a line straight across the gap

12



A lifeguard at L runs the shortest way to the straight edge of the pool.
Which construction shows the route?



Construction The perpendicular from L to the edge

13



Mark the points that are exactly 3 cm from A and exactly 3 cm from B.
Which construction? How many points?



Construction Two arcs of 3 cm, from A and from B

How many Two, where the arcs cross

14



A dog's lead is clipped to a ring that slides along the rail PQ. The lead is 2 m long.
What shape is the edge of where it can reach?

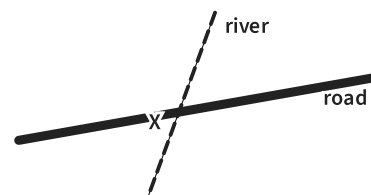


Shape Parallel lines 2 m from PQ, with round ends

15



A road and a river cross at X. A camp must be nearer to the road than to the river.
Which construction? Which side do you shade?



Construction Angle bisector at X

Shade The side next to the road

16



Ben says "the same distance from" always means a perpendicular bisector.
Give an example where it does not.

Example The same distance from two lines that meet:

that is an angle bisector