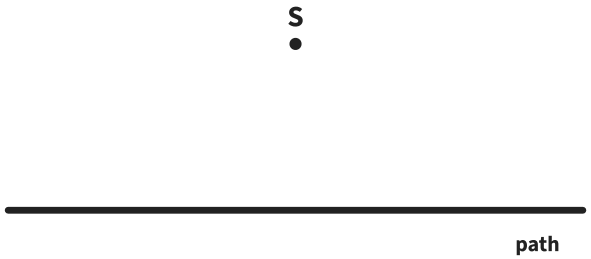
Loci: combining rules and regions

1 **Scale: 1 cm represents 20 m**

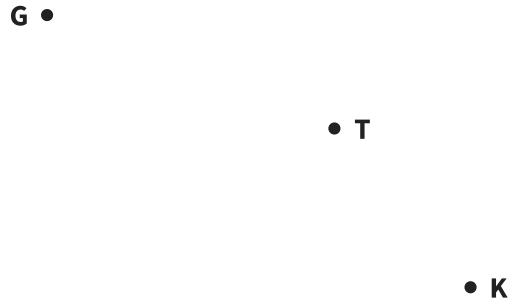
A sprinkler S waters everything up to 40 m from it. Shade the part it waters that is more than 20 m from the path.



Rule	On the plan	Shade
up to 40 m from S	circle, radius 2 cm	inside
more than 20 m from the path		

2 **Scale: 1 cm represents 50 m**

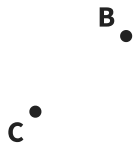
A tent must be less than 100 m from the tap T and closer to the gate G than to the gate K. Shade where it can go.



Rule	On the plan	Shade
less than 100 m from T		
closer to G than to K		

3 **Scale: 1 cm represents 15 m**

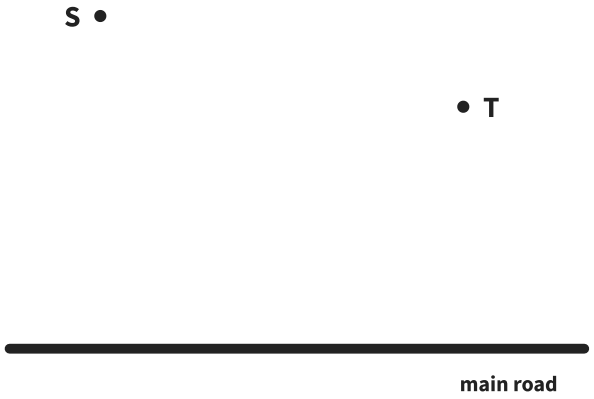
A picnic spot must be less than 30 m from the car park C and more than 15 m from the bins B. Shade where it can be.



Rule	On the plan	Shade
less than 30 m from C		
more than 15 m from B		

4 **Scale: 1 cm represents 200 m**

A playground must be closer to the school S than to the station T and more than 400 m from the main road. Shade where it can go.



Rule	On the plan	Shade
closer to S than to T		
more than 400 m from the road		

Loci: combining rules and regions

5 *Notice the change!*

Scale: 1 cm represents 20 m

A marquee must be less than 40 m from the house H, more than 20 m from the stream and closer to the gate E than to the gate F. Shade where it can go.



6

Scale: 1 cm represents 15 m

A charging point must be exactly 30 m from the lamp L and exactly 15 m from the kiosk K. Mark the places it could go. How many are there?



Number of places = _____

7

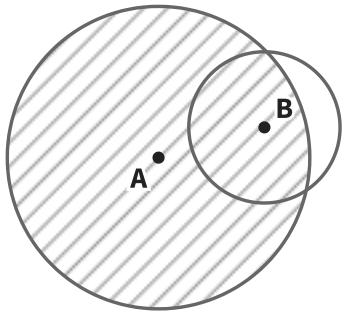
On a plan, 1 cm represents 50 m. Nia wants the points less than 100 m from P. She sets her compasses to 10 cm. Explain her mistake, then shade the region.



Answer _____

8

Omar shades the points less than 2 cm from A and more than 1 cm from B. Is he right? Explain, then shade the right region.



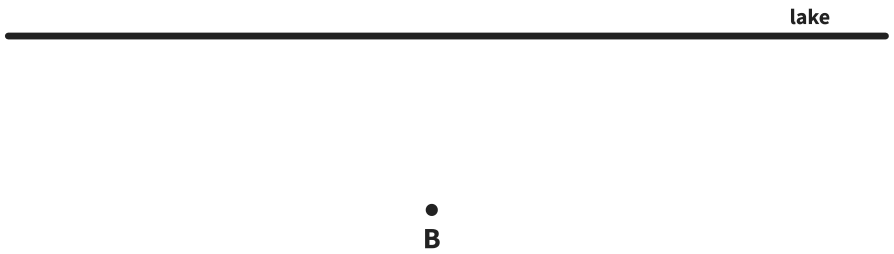
Omar

Answer _____

Loci: combining rules and regions *further practice*

9

An ice cream van parks less than 60 m from the bandstand B and more than 30 m from the edge of the lake. Shade where it can park.
Scale: 1 cm represents 30 m



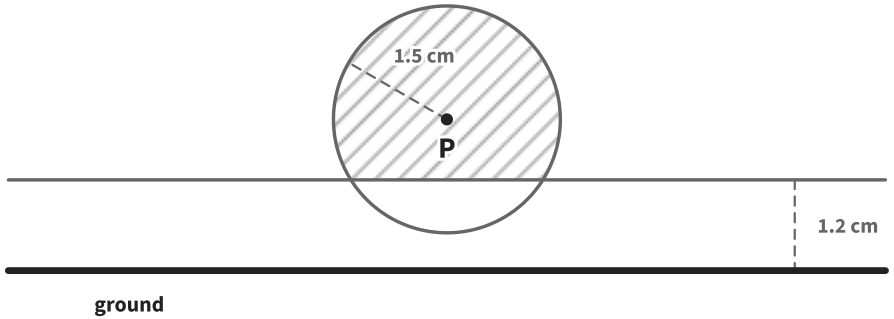
10

A rescue helicopter covers the points less than 10 km from the hospital H that are closer to H than to the airport A. Shade them.
Scale: 1 cm represents 5 km



11

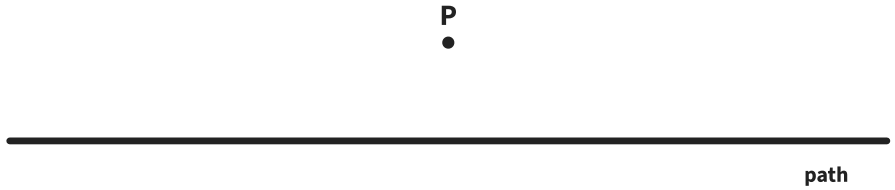
The shaded region shows where a kite can fly. Write the two rules that describe it, in metres.
Scale: 1 cm represents 10 m



Answer _____

12

A litter bin must be exactly 10 m from the straight path and exactly 20 m from the gate P. How many places could it go?
Scale: 1 cm represents 10 m



Number of places = _____

Loci: combining rules and regions *further practice*

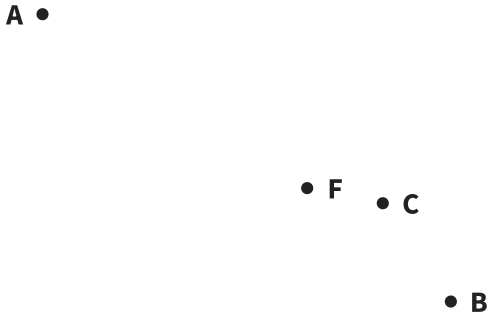
13

A wind turbine must be more than 1 km from the farmhouse F, less than 2 km from the substation S and closer to S than to the village V. Shade where it can go.
Scale: 1 cm represents 1 km



14

The region is less than 50 m from the fountain F and closer to the gate A than to the gate B. Is the café C in it? Draw the loci to decide.
Scale: 1 cm represents 25 m



Answer _____

15

P and Q are 4 cm apart. Is there a point that is less than 1.5 cm from P and less than 2 cm from Q? Explain.

Answer _____

16

On a plan where 1 cm represents 10 m, the points less than 40 m from P are inside a circle of radius 4 cm. Kai redraws the plan with 1 cm to 20 m. What radius should he use? Explain.

Answer _____