

The City School

North Nazimabad Boys Campus

E-Worksheet



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Class: 11

Subject: Mathematics (4024)

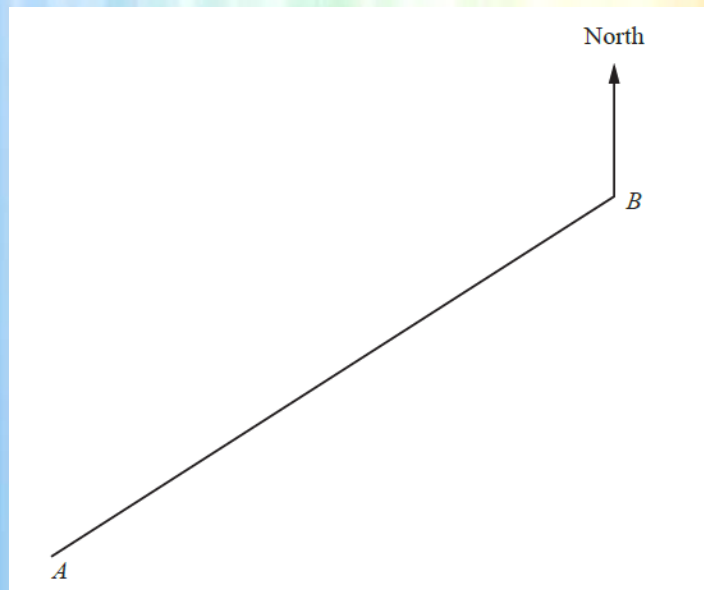
Date: 14 September 2018

1. A map is drawn to a scale of 1 cm to 3 km.

The diagram below shows the positions of two villages A and B on the map.

(a) (i) Write the scale in the form 1: n.

(ii) Find the actual distance, in kilometers, between the villages A and B.



(b) A third village, C, lies north of the line AB.

It is 21 km from A and 18 km from B.

Using ruler and compasses only, construct triangle ABC.

(c) Construct the perpendicular bisector of AB.

(d) A petrol station is to be built so that it is equidistant from A and B and 9 km from C.

Mark with letters F and G the two possible positions of the petrol station.

2. A family wants to move to a new house.

The area where they are going to look depends on the positions of the children's school, S, the father's place of work, F, and the market, M.

The diagram in the answer space is drawn to a scale of 1 cm to 1 km.

It shows the positions of S, F and M.

The house needs to be:

(I) within 4 km of the children's school,

(II) nearer to the market than to the father's place of work.

(a) Use I and II to construct the appropriate loci.

(b) Shade the region of your diagram that represents the possible positions of the house.



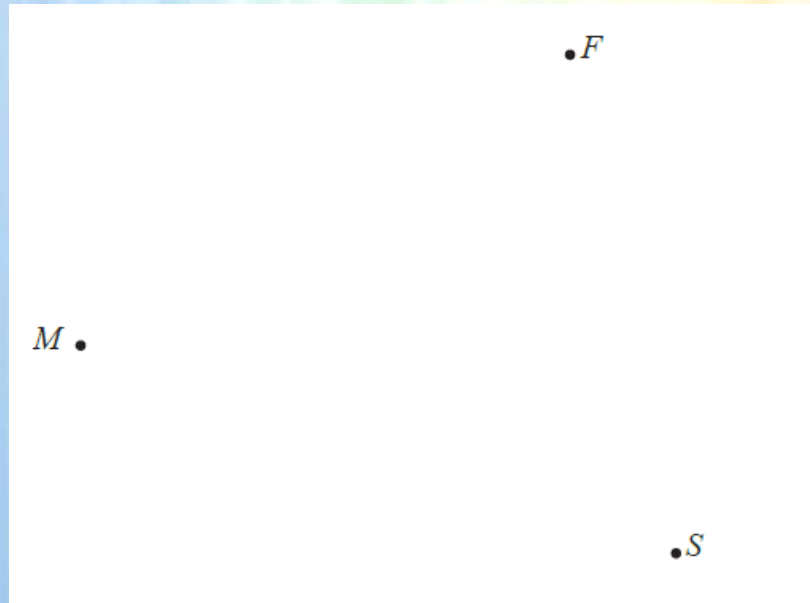
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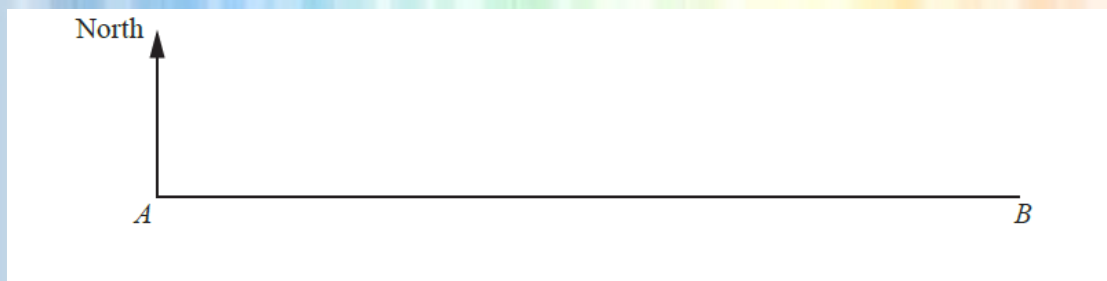
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(c) Find the greatest possible distance between the house and the market.



3. A map is drawn to a scale of 1 cm to 5 km.
The diagram below shows the positions of two radio masts A and B on the map.



- (a) A third radio mast, C, is north of the line AB.
It is 40 km from A and 50 km from B.
Using ruler and compasses, construct triangle ABC.
- (b) A house D, inside the triangle, is more than 35 km from B and closer to B than to A. Shade the region on your diagram that represents the possible positions of the house D.

