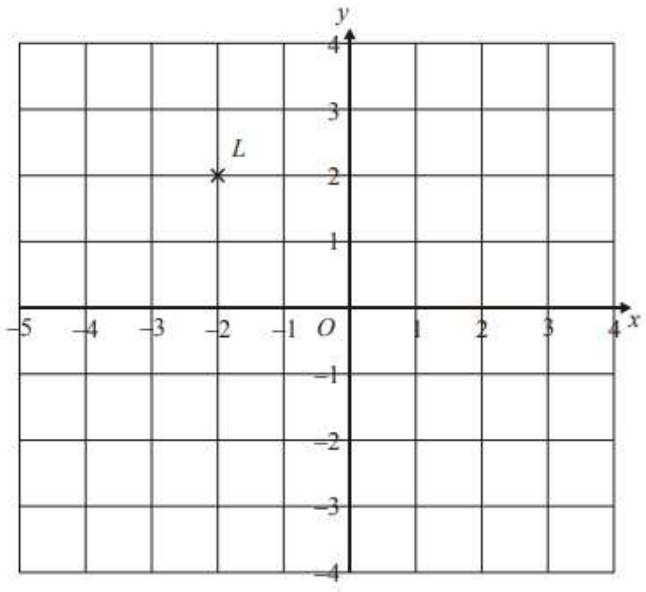
Grade: 8 **Mathematics** (Assessment -5)

Strand: Compound, measure and motion; Functions and graphs; Bearings & scale drawing

Name : **Date : 26/ 02 /2021**

1. Look at the coordinate grid given below. Draw the same on a piece of graph paper.



(a) Mark a point M on the graph which has its coordinates as (2,0).
Join point L and M and write the equation of line LM. _____ [1]

(b) Write an equation of a line which will be parallel to LM. _____ [1]

2. The equation $x^2 + 3x = 30$ has one solution between 4 and 5. Use trial and improvement to find this solution. Give your answer to 1 decimal place.

Show your working in the table. You may not need to use all the lines. [2]

x	$x^2 + 3x =$	Comment
4	*16 + 12 = 28*	*too small*

$x =$

3. Write down the inverse of the following functions:

(a) $f(x) = 2x + 5$ _____ [1]

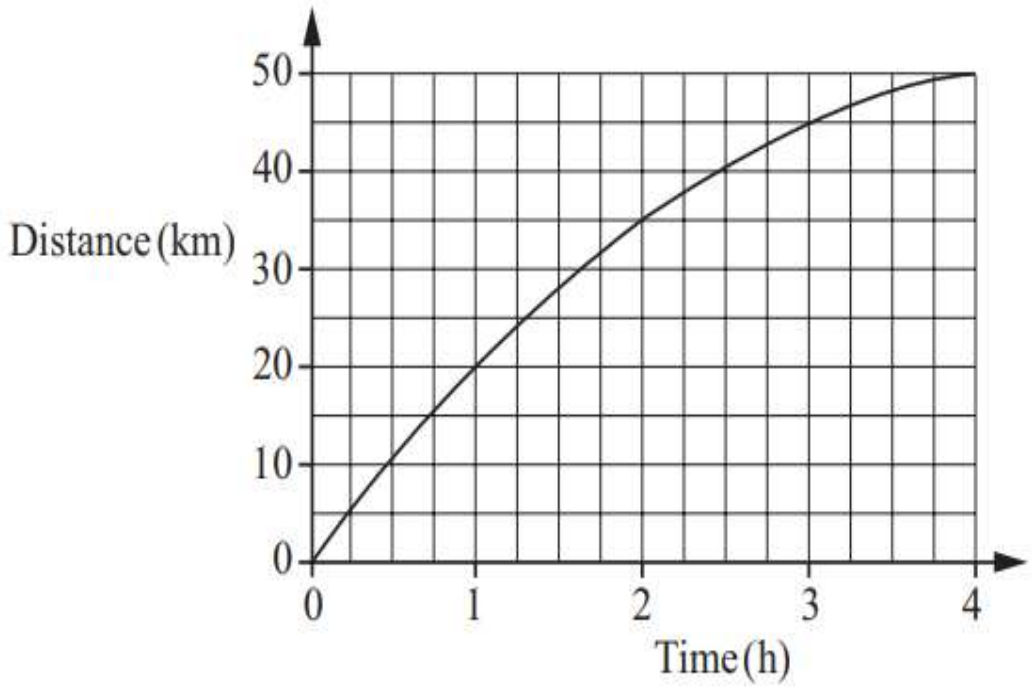
(b) $f(x) = \frac{8x-7}{3}$ _____ [1]

4. (a) Complete this table of values for y = 2x – 1 [1]

x	-1	0	1	2	3
y		-1			5

(b) On a graph paper, draw the line of y = 2x – 1 [1]

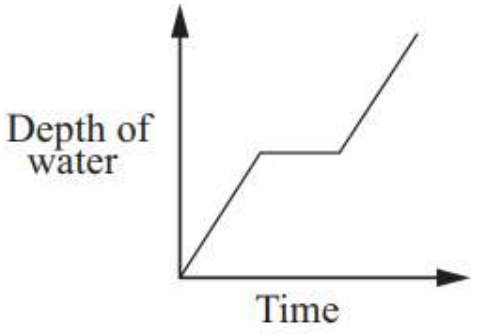
5. A girl goes on a bike ride for four hours. The graph shows her journey.



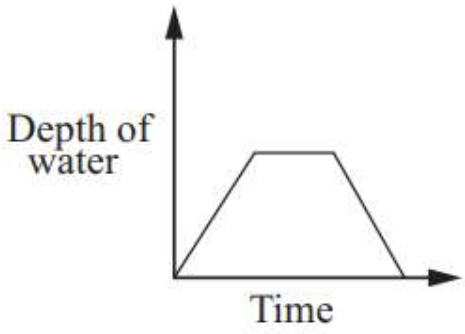
Find her average speed for the whole journey …… [2]

6. Rosie is filling up her bath. She starts by turning on just the cold tap. After a while she also turns on the hot tap. Mention the letter on the graph that best shows the depth of water in Rosie's bath. [1]

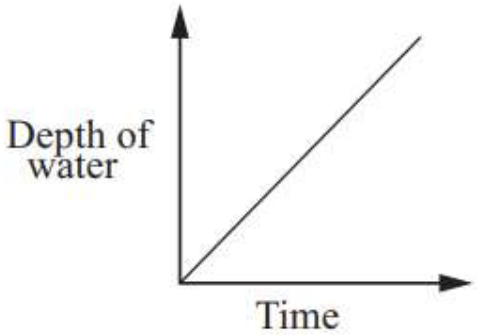
[A]



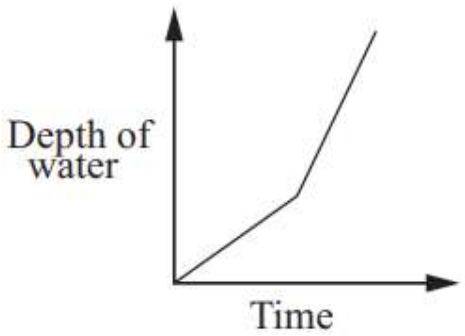
[B]



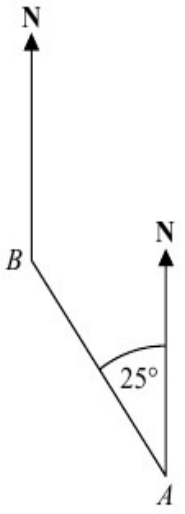
[C]



[D]



7. The diagram shows the position of two churches A and B.



NOT TO SCALE

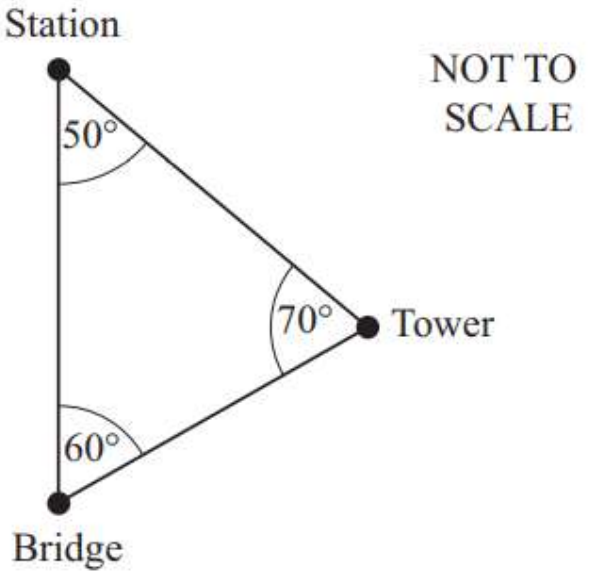
Amber says, **"***The bearing of church B from church A is 025°* **" True or False**

Explain Why? [1]

_____

_____

8. The diagram shows the positions of a bridge, a tower and a station.

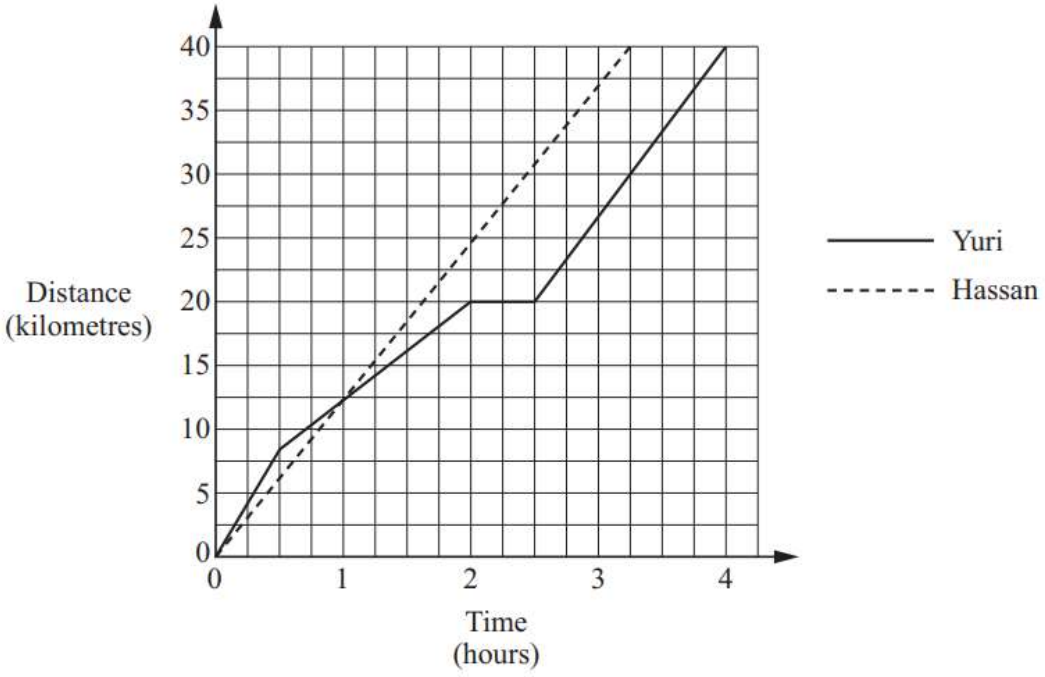


The station is due north of the bridge.

(a) Write down the bearing of the tower from the bridge. Bearing = ° [1]

(b) Work out the bearing of the station from the tower. Bearing = ° [1]

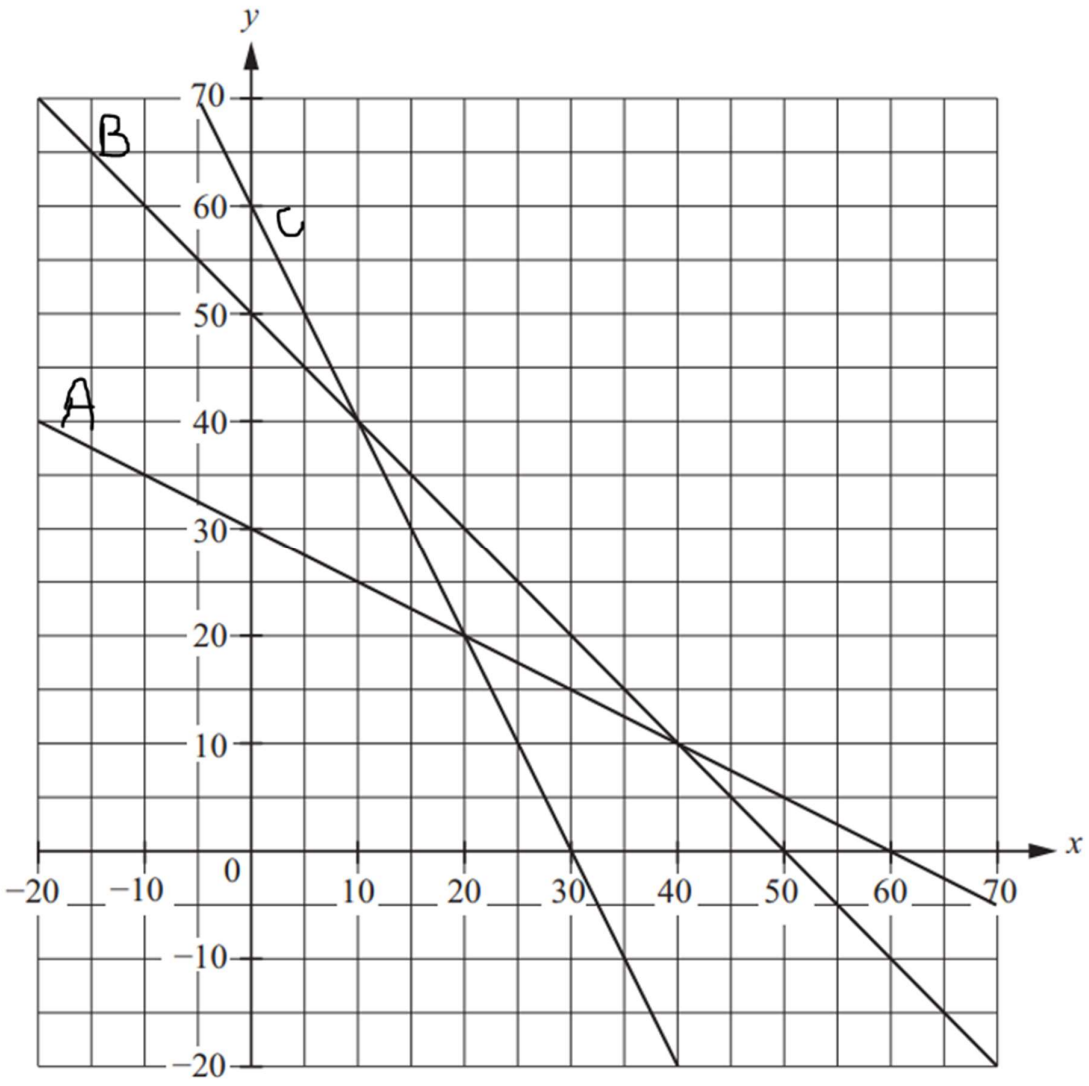
9. Yuri and Hassan take part in a 40 kilometre race.



Work out the difference in the number of minutes that Yuri and Hassan take to run the race.

……minutes [1]

10. Three straight lines are shown on the graph.



a) Identify the lines represented by these two equations.

x + y = 50 and 2x + y = 6 [1]

b) Use the coordinates of the point of intersection to find an appropriate solution to the given simultaneous equations in part a).

x = ...

y = ... [1]

11. A map has a scale 1:50000. How many centimetres on the map is a distance 3.8 km?

..... [1]

12. Draw P and Q more than 5 cm apart. Draw the locus of all the points which are equidistant from both the points. [2]