

# High School Mathematics Test 2013

Year  
7

## Grids and Location

Non Calculator  
Section

### Skills and Knowledge Assessed:

- Use a grid reference system to describe locations. Describe routes using landmarks and directional language (ACMMG113)

Name \_\_\_\_\_

**Answer all questions in the spaces provided on this test paper by:**

***Writing the answer in the box provided.***

**or**

***Shading in the bubble for the correct answer from the four choices provided.***

**Show any working out on the test paper. A ruler and protractor are needed.**

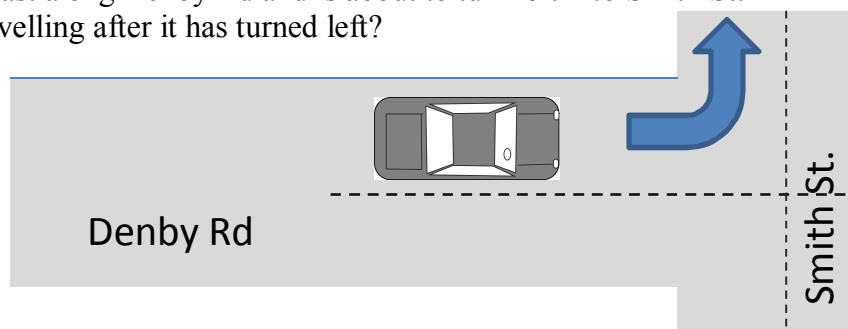
1. A ship is sailing in a south-west direction. Another ship is sailing in the opposite direction. What direction is the second ship sailing?

2. The scale on a map is 6 cm : 100 km. Jack knows that two towns are 450 km apart. How far apart would they be on the map?

 cm

3. The car is travelling south-east along Denby Rd and is about to turn left into Smith St. What direction will it be travelling after it has turned left?

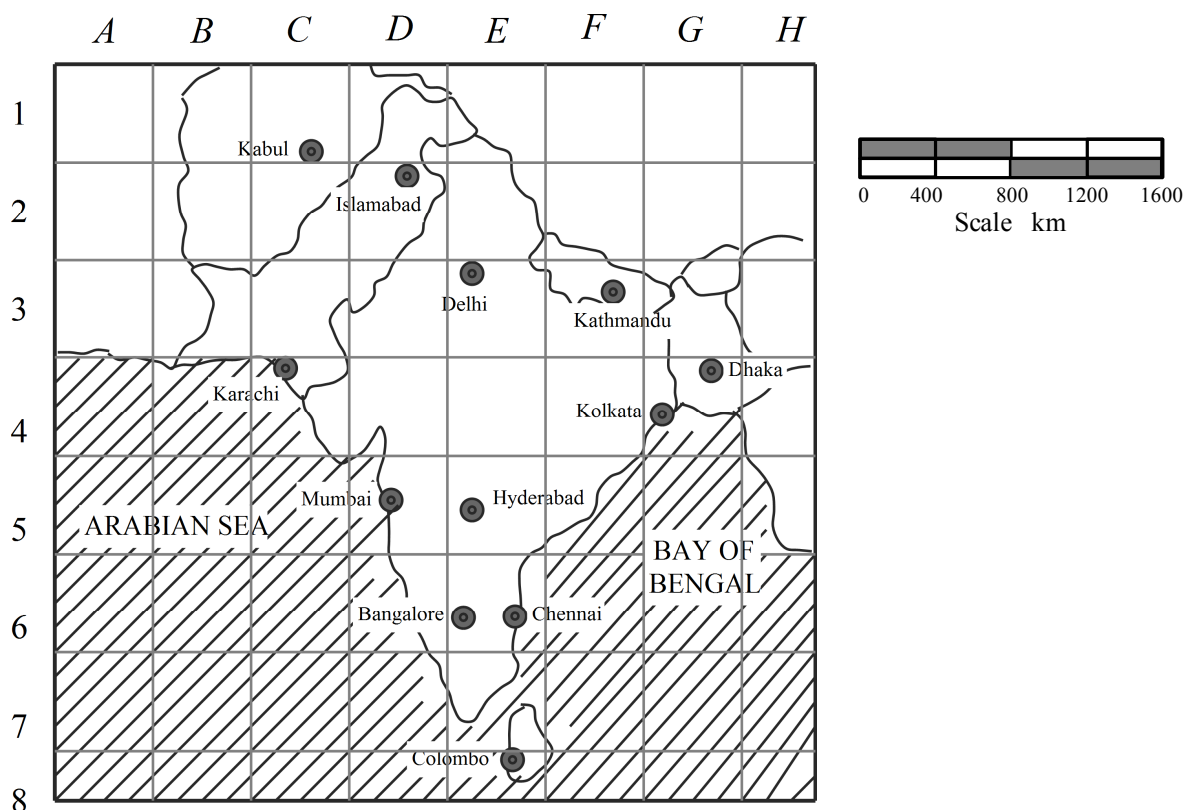
- ☐ north-east  
☐ north-west  
☐ south-east  
☐ south-west



4. On a map, the distance from Leith to Jonas is 12 cm. The real distance between the towns is 720 km. What is the scale on the map?

- ☐ 1 cm : 60 km    ☐ 1 cm : 600 km    ☐ 1 cm : 1 000 km    ☐ 1 cm : 10 000 km

Questions 5 – 10 refer to the map of the Indian subcontinent shown below.



5. What is the grid reference of Hyderabad?

☐ D5

☐ E4

☐ E5

☐ E6

6. What city is located at grid reference F3?

7. What city is south west of Kathmandu and South of Islamabad?

☐ Bangalore

☐ Dhaka

☐ Hyderabad

☐ Mumbai

8. What is the distance from Kabul to Kolkata, correct to the nearest 200 km?

 km

9. What city is about 1 000 km NW of Delhi?

☐ Kabul

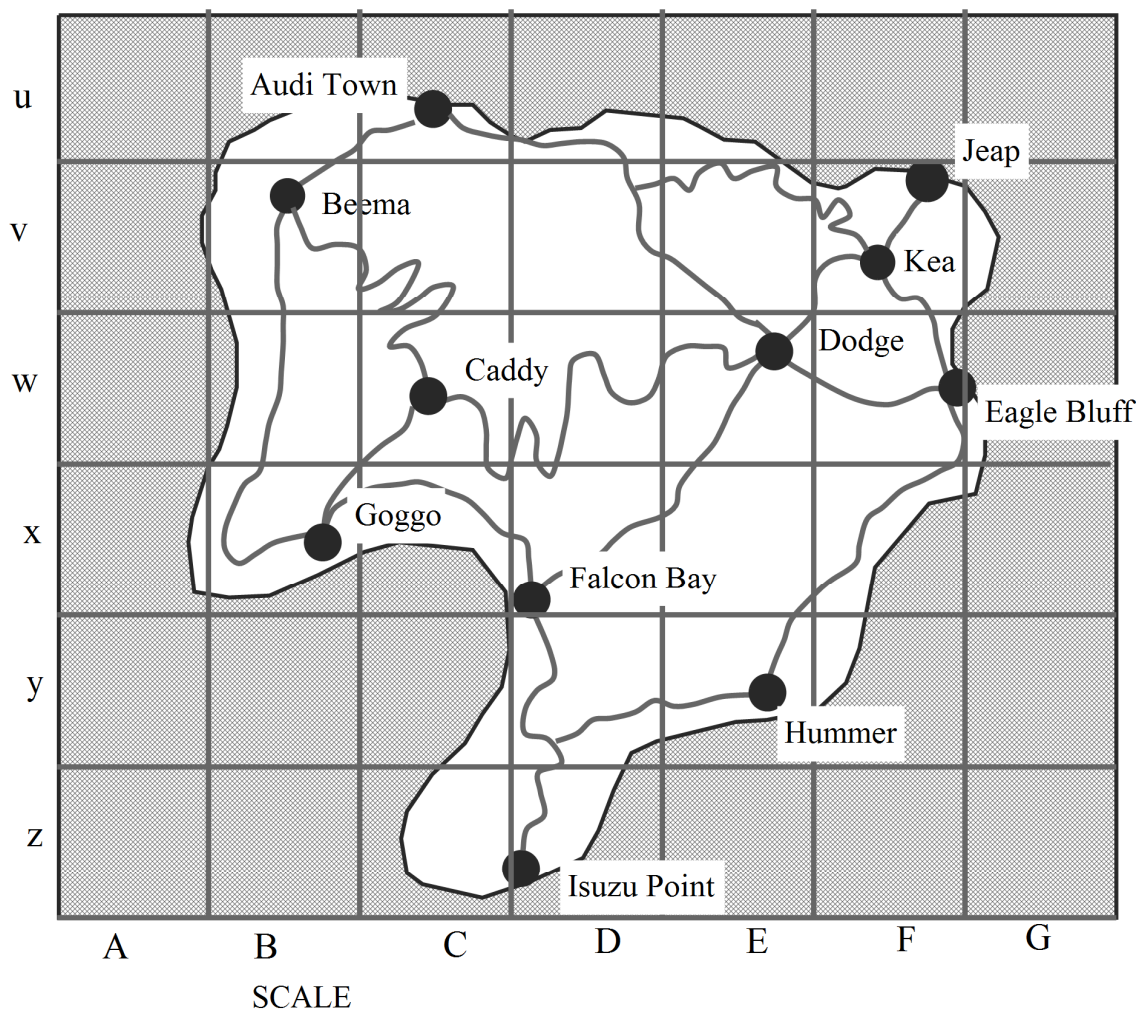
☐ Karachi

☐ Kathmandu

☐ Kolkata

10. Lhasa is NE of Hyderabad and around 800 km from Dhaka. What would be its grid reference?

Questions 11 – 15 refer to the map of Auto Island Shown below.



11. How far in a straight line is it from Hummer to Falcon Bay?

☐ 3.5 km

☐ 20 km

☐ 25 km

☐ 35 km

12. What town is south-west of Jeap and 35 km from Isuzu Point?

13. How far apart are the two towns which have grid references Cw and Bx? (Answer to the nearest 5 km.)

 km

14. What would be the shortest route to get from Beema to Dodge?

- ☐ Directly through Audi Town.
- ☐ Directly through Caddy.
- ☐ Through Audi Town then Kea.
- ☐ Through Goggo then Caddy.

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15. The ship the SS Lincoln is at sea, due south of Goggo and South-west of Falcon Bay. What would be its grid reference?

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## Grids and Location

Calculator Allowed  
Short Answer  
Section

Name \_\_\_\_\_

Answer all questions in the spaces provided on this test paper by:

*Writing the answer in the box provided.*

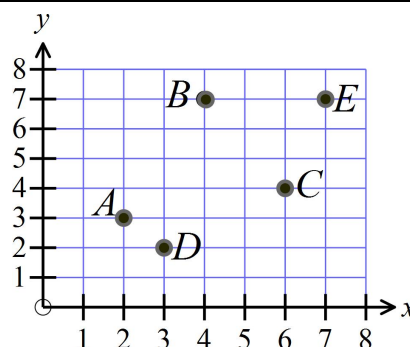
or

*Shading in the bubble for the correct answer from the four choices provided.*

Show any working out on the test paper. Calculators are allowed.

1. Michelle was driving south-west, when she made three left hand  $90^\circ$  turns. What direction was she travelling then?

Questions 2 – 4 refer to the grid shown.



2. Which point is located at (3, 2)?

☐ A

☐ B

☐ C

☐ D

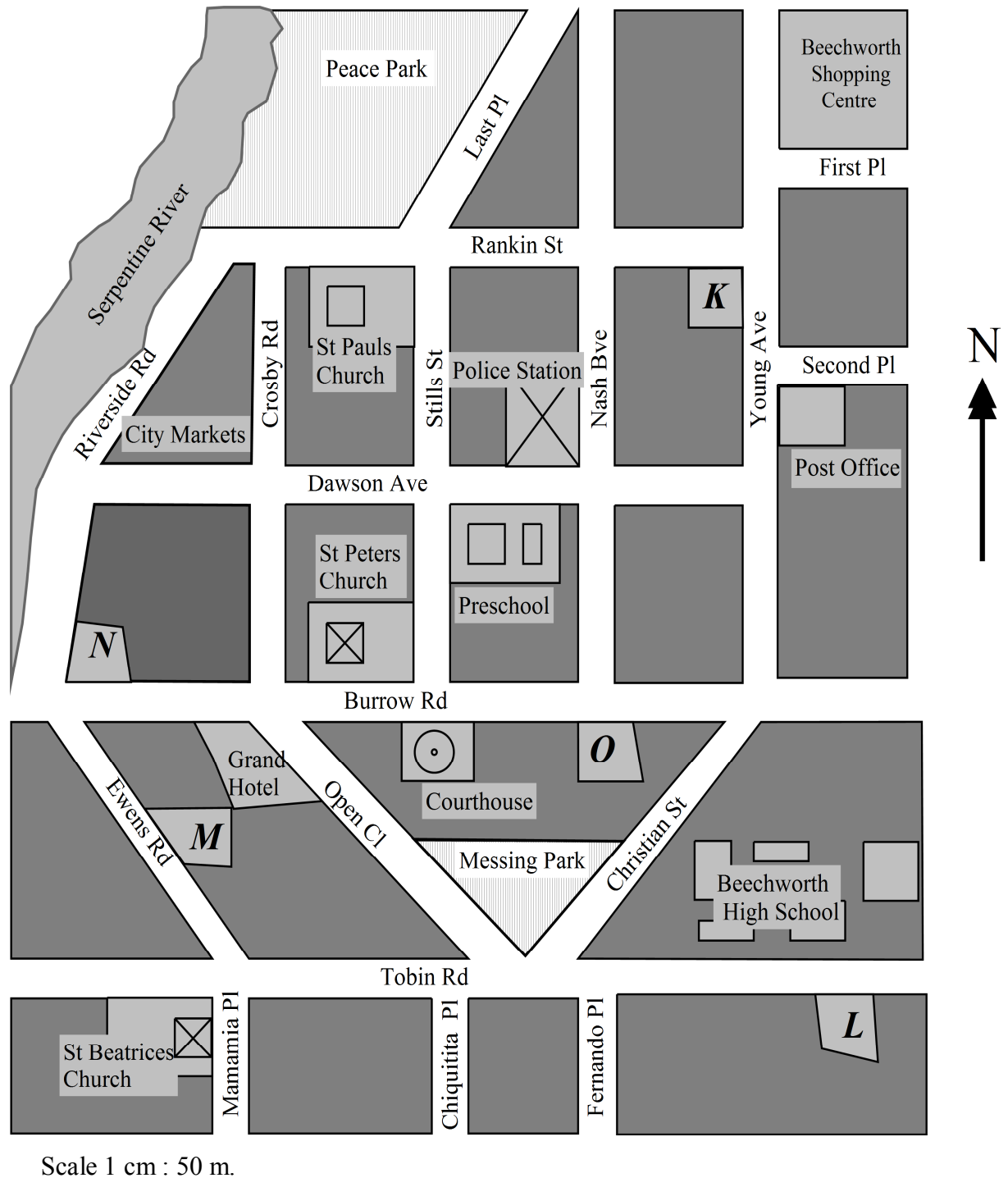
3. What are the coordinates of point E ?

4. B and E are the first two corners of a square. Which coordinates could describe the other two corners ?

☐ (3, 4) and (6, 4)    ☐ (4, 3) and (7, 3)

☐ (4, 4) and (7, 4)    ☐ (4, 3) and (4, 7)

Questions 5 – 10 refer to the map of Beechworth city centre.



The homes of five friends, Keith, Luke, Meg, Natalie and Owen are shown on this map by the letters K, L, M, N and O. Some other landmarks in the town are also shown.

5. Which street runs at right angles to Open Cl?
- |                                       |  |
|---------------------------------------|--|
| <input type="checkbox"/> Burrow Rd.   | <input type="checkbox"/> Christian St. |
| <input type="checkbox"/> Fernando Pl. | <input type="checkbox"/> Tobin Td.     |

6. Meg is travelling west on Dawson Rd and turns right into Riverside Rd. What direction is she travelling now?

7. What is the distance (in a straight line) and the direction of Keith's house from Meg's house?

Distance is  metres in a  direction.

8. How far must Keith walk to get to his nearest (in distance) friend's house?

metres

9. Natalia walks from her house along Burrow Rd to Owens House. What town landmark does she pass on her left?

☐ The Courthouse ☐ The Grand Hotel

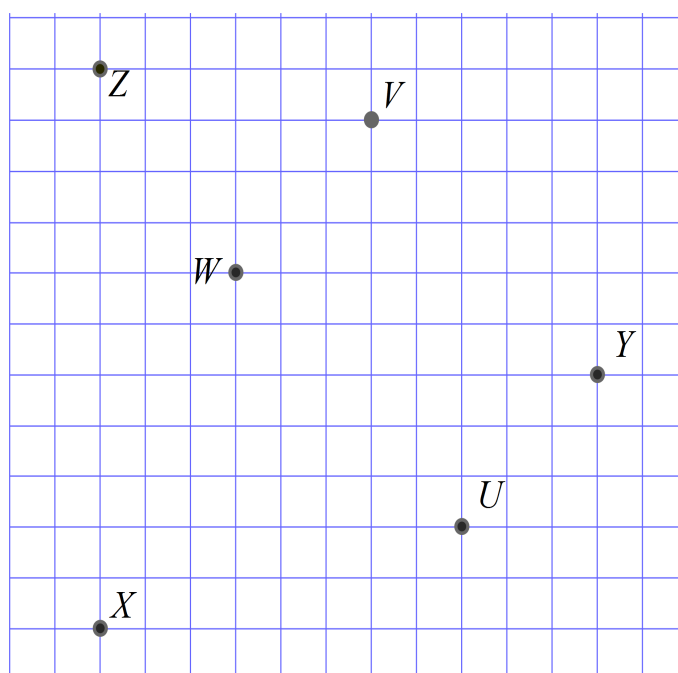
☐ St Pauls Church ☐ St Peters Church

10. Meg leaves her house and walks north-west on Ewens Rd then turns a sharp right at the first intersection. She walks 400 m along this street before turning left at an intersection and walking a further 250 metres along this street. What landmark would be nearest on her left?

The positions of 5 markers *U*, *V*, *W*, *X*, *Y* and *Z* are shown on the grid for a game.

The rules say it is only possible to move vertically and horizontally on the grid.

When playing the game, Jacque records her moves. When moving from *W* to *Z* she records 3W, 4N.



- 
11. Which of these moves would get Jacquie back from  $Z$  to  $W$ ?

☐ 3E, 4N      ☐ 3E, 4S.  
☐ 3W, 4S      ☐ 3W, 4N

- 
12. Krystal starts at  $U$  and travels 8W,2S. Where would she place her marker when she finishes the move?

☐  $V$       ☐  $W$       ☐  $X$       ☐  $Y$

- 
13. Which of these three part moves would get from from  $W$  to  $Y$ ?

☐ 4E,2S, 4E.      ☐ 4E,2N, 4E.  
☐ 4S,2E, 4N.      ☐ 4W,2S, 4W.

- 
14. Tayla starts at  $X$  and travels 8E,10N,5W,3S. Where would she finish her move?

☐  $U$       ☐  $V$       ☐  $W$       ☐  $Y$

- 
15. Tran wants to go from  $V$  to  $Y$  in a move with five legs.  
The first three legs are given below. Complete the last two legs.

7E, 4S, 5W, ,

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## Grids and Location ANSWERS

### Non Calculator Section

1.	north-east
2.	26 cm
3.	north-east
4.	1 cm : 60 km
5.	E5
6.	Kathmandu
7.	Mumbai
8.	2 200 km (nearest 200 km)

9.	Kabul
10.	G2
11.	35 km
12.	Falcon Bay
13.	25km (using centres of dots)
14.	Directly through Audi Town.
15.	Bz

### Calculator Allowed Section

1.	North-west
2.	$D$
3.	(7, 7)
4.	(4, 4) and (7, 4)
5.	Christian St
6.	North-east
7.	Around 550 m in a north-east direction
8.	Around 400 m

9.	St Peters Church
10.	Police Station
11.	3E, 4S.
12.	$X$
13.	4E, 2S, 4E
14.	$W$
15.	1S, 3E