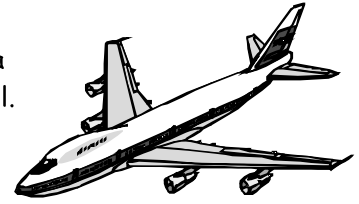




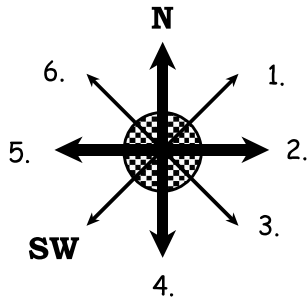
## Finding location using compass points:

Imagine how difficult it would be to fly a plane from New Zealand to Australia without the use of a compass. Being able to use a compass is an important skill.

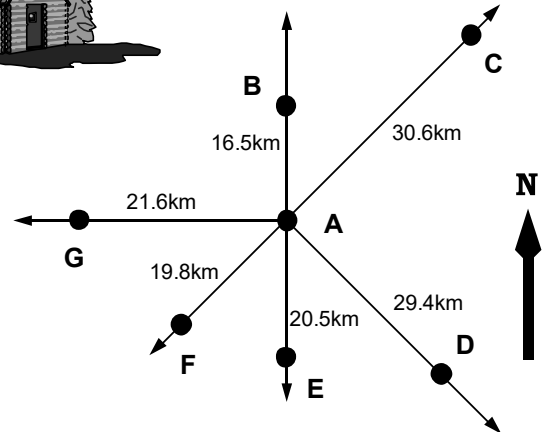


### Task 22

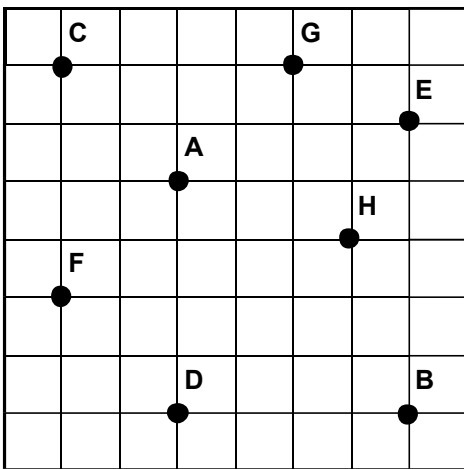
Copy this diagram of a compass and fill in the missing directions numbered 1 to 6.



On this diagram each letter represents a town and the distances between Town A and all other towns are shown.

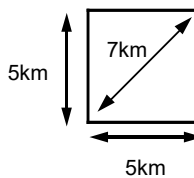


7. Which town is 20.5km away from Town A?
8. Which town is west of Town A?
9. Give the **compass directions** and **distances** required to travel from Town A to all other towns, B to G.



This grid is a scale diagram showing the positions of various towns, represented by the letters A to H. The side of a square represents 5km and the diagonal is 7km.

Example:

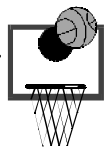


The distance from A to B would be  $4 \times 7\text{km} = 28\text{km}$ , direction SE.

Calculate the distance and give the direction you would travel to go between the following towns.

- |            |            |            |
|------------|------------|------------|
| 11. B to D | 12. A to D | 13. F to A |
| 14. H to D | 15. B to C | 16. E to B |
| 17. F to C | 18. C to A | 19. G to F |

20. Kelly is going to draw a scale diagram of a school playground area. Using the **compass directions** and a **measuring tape**, she collected the following information.



- The play ground area is 10 metres square.
- Right in the middle is a tower (T).
- 3 metres N of the tower is a slide (S).
- 4 metres east of the tower is a swing (W).
- In the NE corner there is a netball hoop (H).
- 7 metres south of the netball hoop there is a drinking tap (D1).
- In the SW corner there is a basketball hoop (B).
- 6 metres north of the basketball hoop there is another drinking tap (D2).



Use the information that Kelly collected to **draw a plan** of this playground in your maths book.

Use a scale of 1cm = 1m.

21. **Create** your own map with a scale. **Write instructions** to locate objects on your map (as above). Have a classmate recreate your map from your instructions, without seeing your map first.



## Finding locations using bearings measured from North:

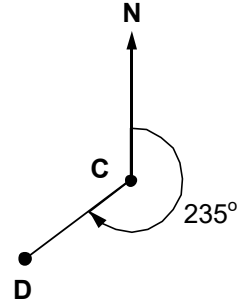
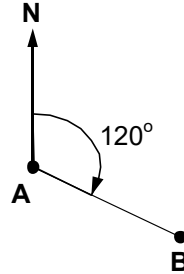
A direction may be given as a **bearing**. Measured in a clockwise direction from North, the bearing is the angle between north and the direction.

*Example:* East has a bearing of  $90^\circ$ . South has a bearing of  $180^\circ$  and West has a bearing of  $270^\circ$ .

To find the bearing of point B from point A, follow these steps.

- Step 1:** Draw in a North line at point A.
- Step 2:** Imagine you are facing north and turn clockwise until you are facing B.
- Step 3:** Measure the angle, in a clockwise direction, between the North line and the line AB.

Answer: B is on a bearing of  $120^\circ$  from A.

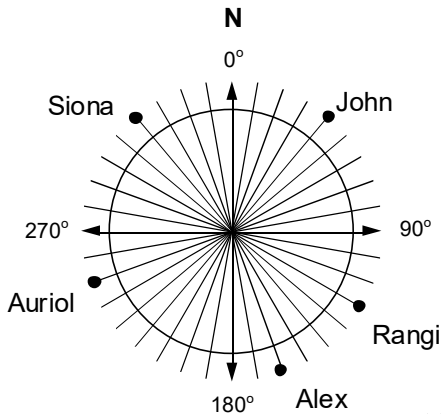
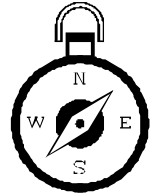


How could you work out a bearing that is over  $180^\circ$ , such as the bearing point D from point C?

## Task 23

Calculate the bearings for these points on a compass.

1. SE
2. NW
3. NE
4. SW



The Solomon family are having a family reunion. Members of the family are coming from different parts of the country.

5. Use this diagram to **work out the bearing** that each family member will travel to get to the reunion.

Use a **protractor** to find the bearing of X from Y.

- 6.
- 7.
- 8.
- 9.

10. Draw a map of your classroom, your school grounds or your own town. On your map, mark the direction of North and draw several main features.
11. Have a classmate use a **protractor** to **work out the bearings** between main features on your map.

