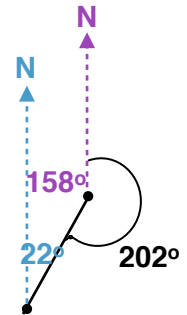


## Scale drawings

### Starter

1. **(Review of last lesson)** A ship sails on a course of  $202^\circ$ . It returns on the same route. What is its bearing on the return?

**Working:** The angle between the route and *half-way point's* North arrow is  $360 - 202 = 158^\circ$ .  
By allied angles, the return bearing is  $180 - 158 = 022^\circ$



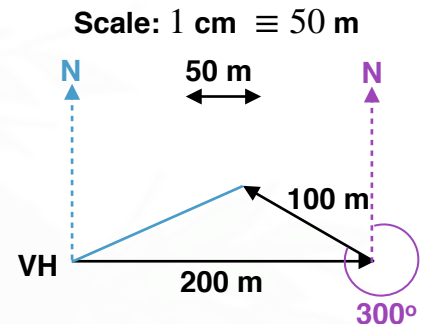
- E.g. 1** Bridget begins at the village hall. She walks due East for 200 m, then on a bearing of  $300^\circ$  for 100 m. What is Bridget's distance and bearing from the village hall? Draw a scale diagram to find the answer. (Use a scale of 1 cm to 50 m)

### Working:

**Return journey** — the line is about 2.5 cm long.  
So Bridget is about  $2.5 \times 50 = 125$  m from the village hall.

The bearing is the angle the blue line makes with the blue North line so about  $065^\circ$ .

**Answers:**  $125 \pm 5$  m  
 $065 \pm 2^\circ$



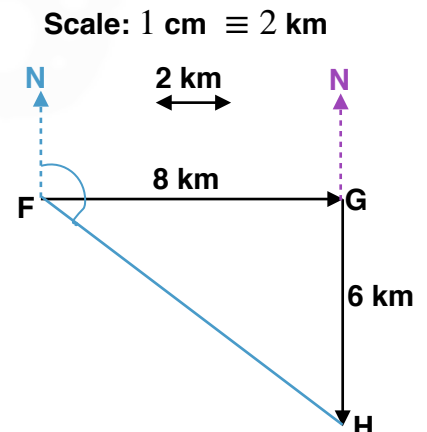
- E.g. 2** Marie cycles a distance of 8 km from  $F$  to  $G$  on a bearing of  $090^\circ$ . From  $G$  she cycles 6 km to  $H$ . The bearing of  $H$  from  $G$  is  $180^\circ$ . What is Marie's bearing and distance from  $F$ ? (Use a scale of 1 cm to 2 km).

### Working:

**Marie's distance from  $F$**  — the line is 5 cm long.  
So Marie is  $5 \times 2 = 10$  km from  $F$ .

The bearing is the angle the blue line makes with the blue North line so about  $127^\circ$ .

**Answers:**  $10 \pm 0.2$  km  
 $127 \pm 2^\circ$



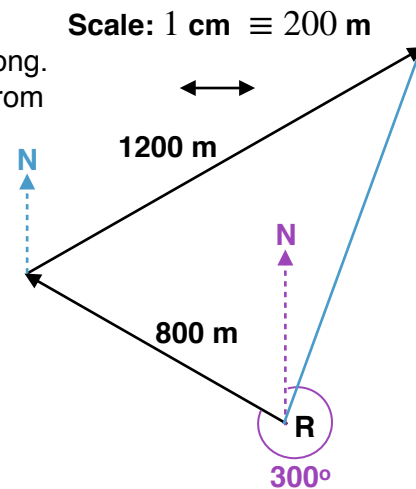
**E.g. 3** Michael rows from Ryde for a distance of 800 m on a bearing of  $300^\circ$ , then he rows for 1200 m on a bearing of  $060^\circ$ . What is Michael's distance and bearing from Ryde? (Use a scale of 1 cm to 200 m).

**Working:**

**Distance from Ryde** — the **line** is 5.3 cm long.  
So Michael is about  $5.3 \times 200 = 1060$  m from Ryde.

The bearing is the angle the **blue line** makes with the **purple North line** so about  $019^\circ$ .

**Answers:**  $1060 \pm 20$  m  
 $019 \pm 2^\circ$



**Video:** [Scale drawings](#)

[Solutions to Starter and E.g.s](#)

**Exercise**

p202 Ex 11.4 Qu 1-11

[Textbook answers \(only available during a lockdown\)](#)