

Map Scales and Directions

Use the scale to change map distances to real distances, and back.

The scale 1 cm = 100 m means each centimetre on the map is 100 m in real life.

From the map to real life			Example	From real life to the map			Example
Scale	On the map	Real life		Scale	Real life	On the map	
1. 1 cm = 100 m	4 cm	400 m		7. 1 cm = 100 m	900 m	9 cm	
2. 1 cm = 50 m	6 cm	_____ m		8. 1 cm = 50 m	350 m	_____ cm	
3. 1 cm = 200 m	5 cm	_____ m		9. 1 cm = 200 m	1,600 m	_____ cm	
4. 1 cm = 500 m	3 cm	_____ m		10. 1 cm = 1 km	6 km	_____ cm	
5. 1 cm = 2 km	7 cm	_____ km		11. 1 cm = 250 m	1 km	_____ cm	
6. 1 cm = 250 m	8 cm	_____ m		12. 1 cm = 500 m	2.5 km	_____ cm	

Read each scale bar. How long is the line above it in real life?

13.

0100200300400500 m

Example

14.

0123 km

15.

0100200300400 m

16.

05001,0001,500 m

1 cm stands for 100 m.
The line is 300 m long.

1 cm stands for _____ m.
The line is _____ m long.

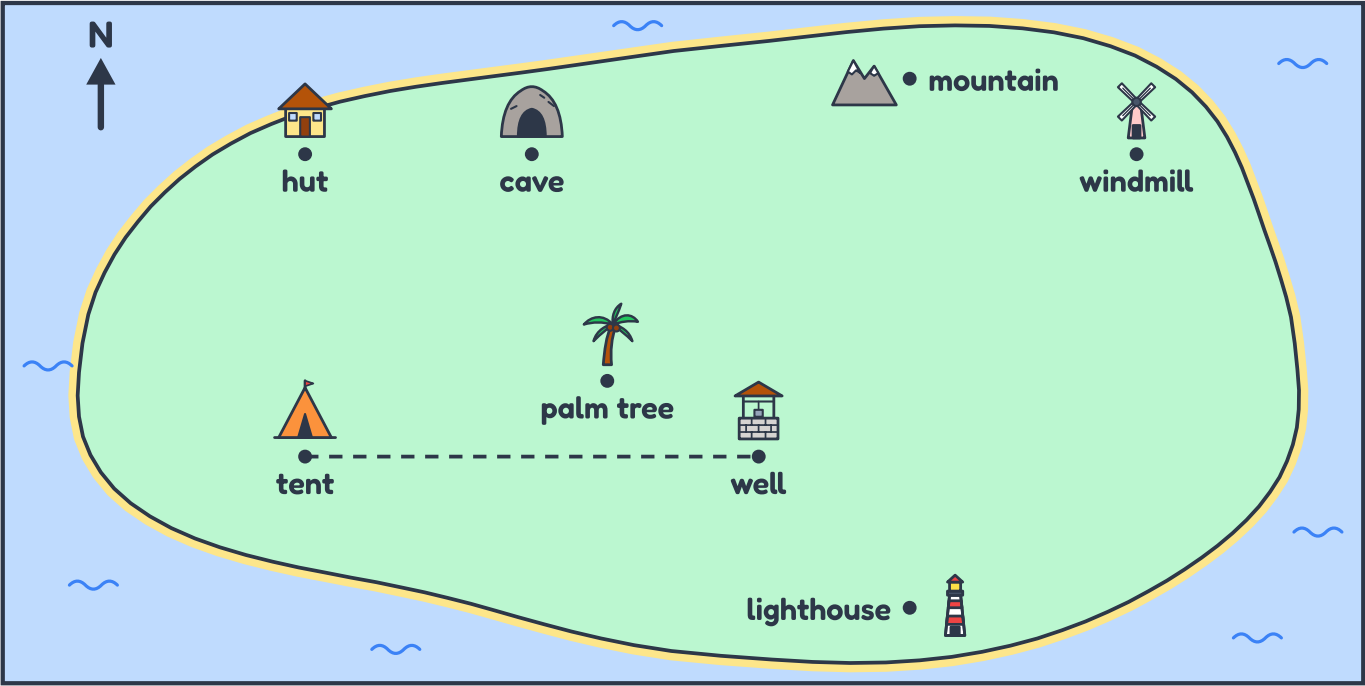
1 cm stands for _____ m.
The line is _____ m long.

1 cm stands for _____ m.
The line is _____ m long.

Map Scales and Directions

Measure between places on the map, then use the scale.

Measure in a straight line from dot to dot, with your ruler or the one at the bottom.



Scale: 1 cm = 200 m

0

200

400

600

800 m

1. From the tent to the well:

Example

6

cm on the map =

1,200

m
2. From the tent to the hut:

cm on the map =

m
3. From the hut to the cave:

cm on the map =

m
4. From the cave to the well:

cm on the map =

m
5. From the lighthouse to the mountain:

cm on the map =

m
6. From the cave to the windmill:

cm on the map =

m
7. From the hut to the lighthouse:

cm on the map =

m
8. Which place is exactly 1 km from the hut, in a straight line?

the

 Cut out this ruler, or use your own.



Map Scales and Directions

Follow paths in metres, and say how far and which way.

Map key

	lighthouse		jetty
	mountain		well
	tent		cave
	palm tree		hut
	windmill		boat

0 100 200 m
Each square is 100 m across.

Follow each path. Which square do you reach? What is there?

Example

1. From the jetty, walk 300 m east, then 100 m north.

D4palm tree
2. From the hut, walk 300 m east, then 100 m north.
3. From the lighthouse, walk 200 m south, then 300 m east.
4. From the windmill, walk 200 m west, then 100 m north.
5. From the cave, walk 100 m north, then 100 m east.

How far is it, and which way?

6. The mountain is m of the lighthouse.
7. The tent is m of the hut.
8. The jetty is m of the well.

Map Scales and Directions

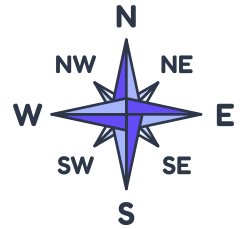
Turn in degrees, clockwise or anticlockwise. Which way do you face?

A whole turn is 360° . A half turn is 180° .

A quarter turn is 90° . A three-quarter turn is 270° .

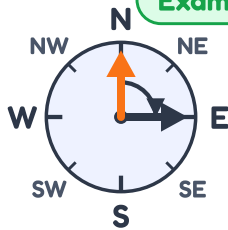
From one compass point to the next is 45° .

Clockwise turns the way the hands of a clock go.



Draw an arrow the way you face after the turn, then write the direction.

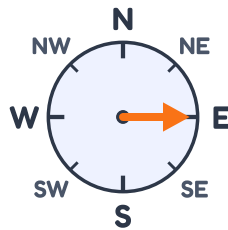
1. **Example**



Face north,
turn 90°
clockwise.

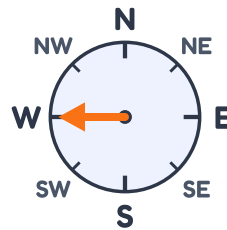
east

2.



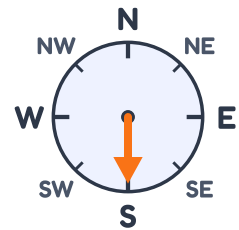
Face east,
turn 180°
anticlockwise.

3.



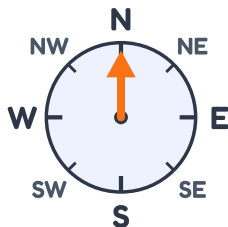
Face west,
turn 90°
anticlockwise.

4.



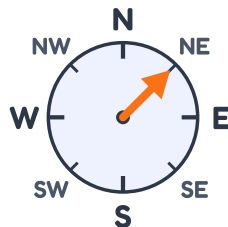
Face south,
turn 180°
clockwise.

5.



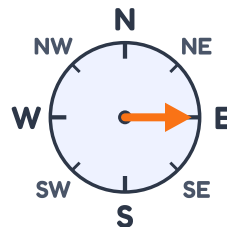
Face north,
turn 45°
clockwise.

6.



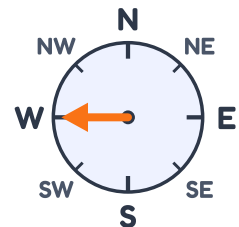
Face north-east,
turn 270°
anticlockwise.

7.



Face east,
turn 135°
clockwise.

8.



Face west,
turn 45°
clockwise.

How many degrees is each turn?

9. Face north. Turn clockwise until you face west.

The turn is _____

10. Face south. Turn anticlockwise until you face east.

The turn is _____

11. Face west. Turn clockwise until you face east.

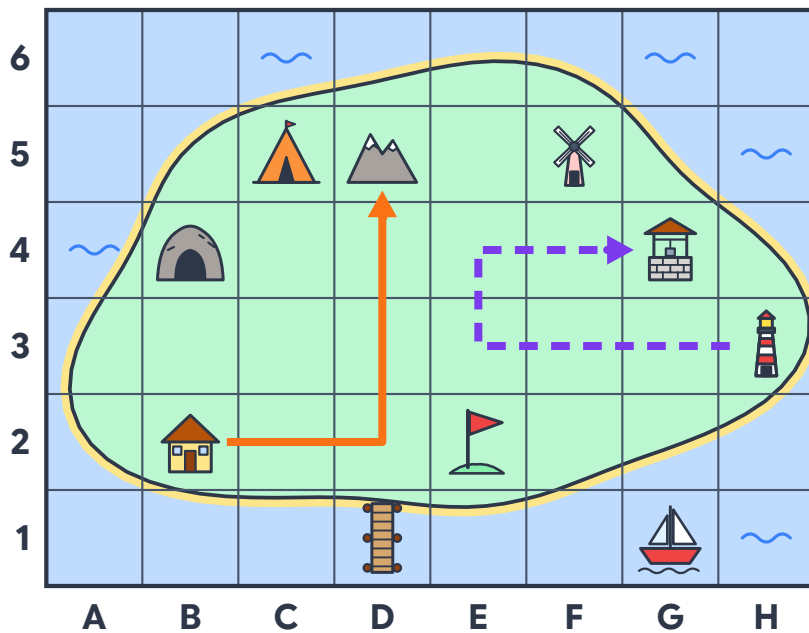
The turn is _____

12. Face north-east. Turn clockwise until you face south.

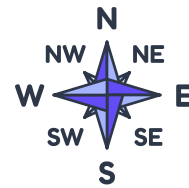
The turn is _____

Map Scales and Directions

Follow and write routes with turns in degrees and distances.



Map key



0 100 200 m

Each square is 100 m across.

Follow each route. Where do you end up?

- Start at the jetty, facing north. Walk 300 m, turn 90° anticlockwise and walk 200 m.
You end up in square B4 at the cave Example
- Start at the tent, facing south. Walk 300 m, turn 90° anticlockwise and walk 200 m.
You end up in square _____ at the _____
- Start at the windmill, facing south. Walk 200 m, turn 270° clockwise and walk 200 m.
You end up in square _____ at the _____

Write the route of each path drawn on the map. Use 90° turns.

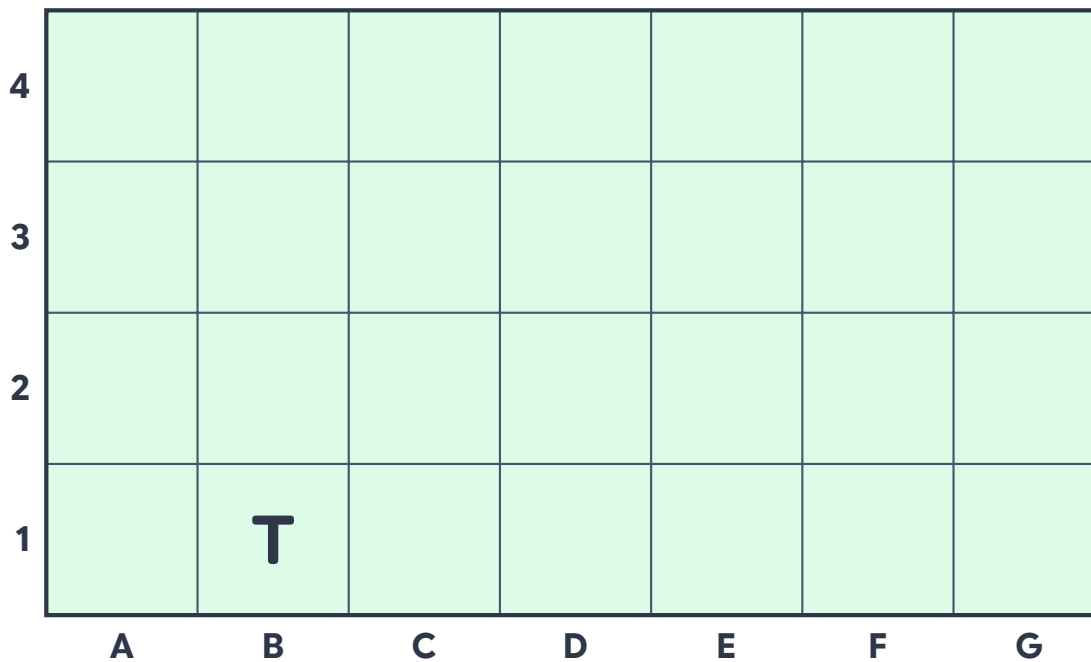
- Path 1, from the hut: Face _____ and walk _____ m,
turn _____ and walk _____ m.
- - - Path 2, from the lighthouse: Face _____ and walk _____ m,
turn _____ and walk _____ m,
turn _____ and walk _____ m.

Map Scales and Directions

Make a map of the camp from the clues, then answer the questions.

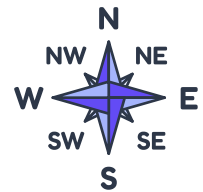
The scale is 1 cm = 50 m, and each square is 2 cm across.

1. So each square stands for 100 m. **Example**



Scale: 1 cm = 50 m

Map key



Write the letter of each place in its square. The tent is done for you.

2. The tent is in B1. **Example**
3. The well is 300 m north of the tent.
4. The hut is 400 m east of the tent.
5. The flag is 200 m north of the hut.
6. The cave is 200 m west of the flag.
7. The mountain is 100 m north of the flag.

Now use your map.

8. Which square is the cave in? _____
9. How far is it from the well to the mountain? _____ m
10. Which way is the cave from the hut? _____
11. Measure straight from the middle of the tent's square to the mountain's:
_____ cm on the map = _____ m in real life

Map Scales and Directions

Use the scale to change map distances to real distances, and back.

The scale 1 cm = 100 m means each centimetre on the map is 100 m in real life.

From the map to real life			Example	From real life to the map			Example
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2. 1 cm = 50 m	6 cm	_____ m		8. 1 cm = 50 m	350 m	_____ cm	
3. 1 cm = 200 m	5 cm	_____ m		9. 1 cm = 200 m	1,600 m	_____ cm	
4. 1 cm = 500 m	3 cm	_____ m		10. 1 cm = 1 km	6 km	_____ cm	
5. 1 cm = 2 km	7 cm	_____ km		11. 1 cm = 250 m	1 km	_____ cm	
6. 1 cm = 250 m	8 cm	_____ m		12. 1 cm = 500 m	2.5 km	_____ cm	

Read each scale bar. How long is the line above it in real life?



1 cm stands for 100 m.
The line is 300 m long.



1 cm stands for _____ m.
The line is _____ m long.



1 cm stands for _____ m.
The line is _____ m long.

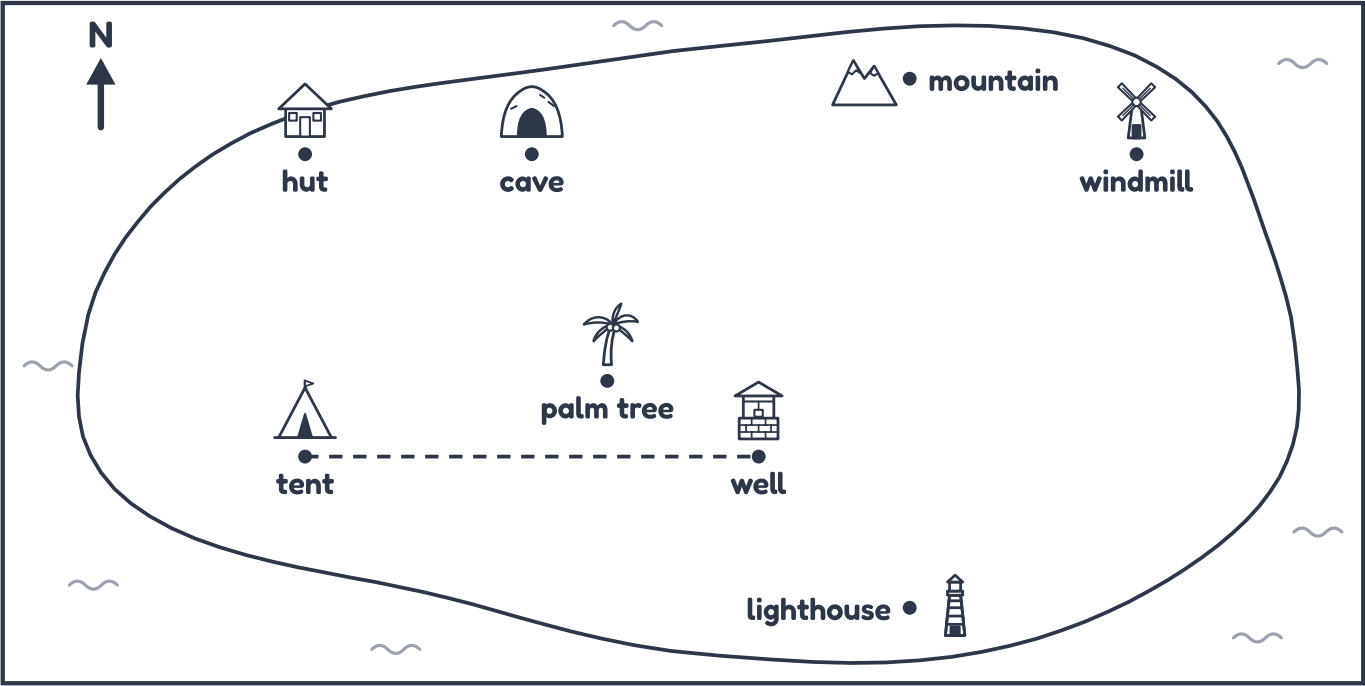


1 cm stands for _____ m.
The line is _____ m long.

Map Scales and Directions

Measure between places on the map, then use the scale.

Measure in a straight line from dot to dot, with your ruler or the one at the bottom.



Scale: 1 cm = 200 m



1. From the tent to the well:

Example

6 cm on the map = 1,200 m
2. From the tent to the hut:

cm on the map = m
3. From the hut to the cave:

cm on the map = m
4. From the cave to the well:

cm on the map = m
5. From the lighthouse to the mountain:

cm on the map = m
6. From the cave to the windmill:

cm on the map = m
7. From the hut to the lighthouse:

cm on the map = m
8. Which place is exactly 1 km from the hut, in a straight line?

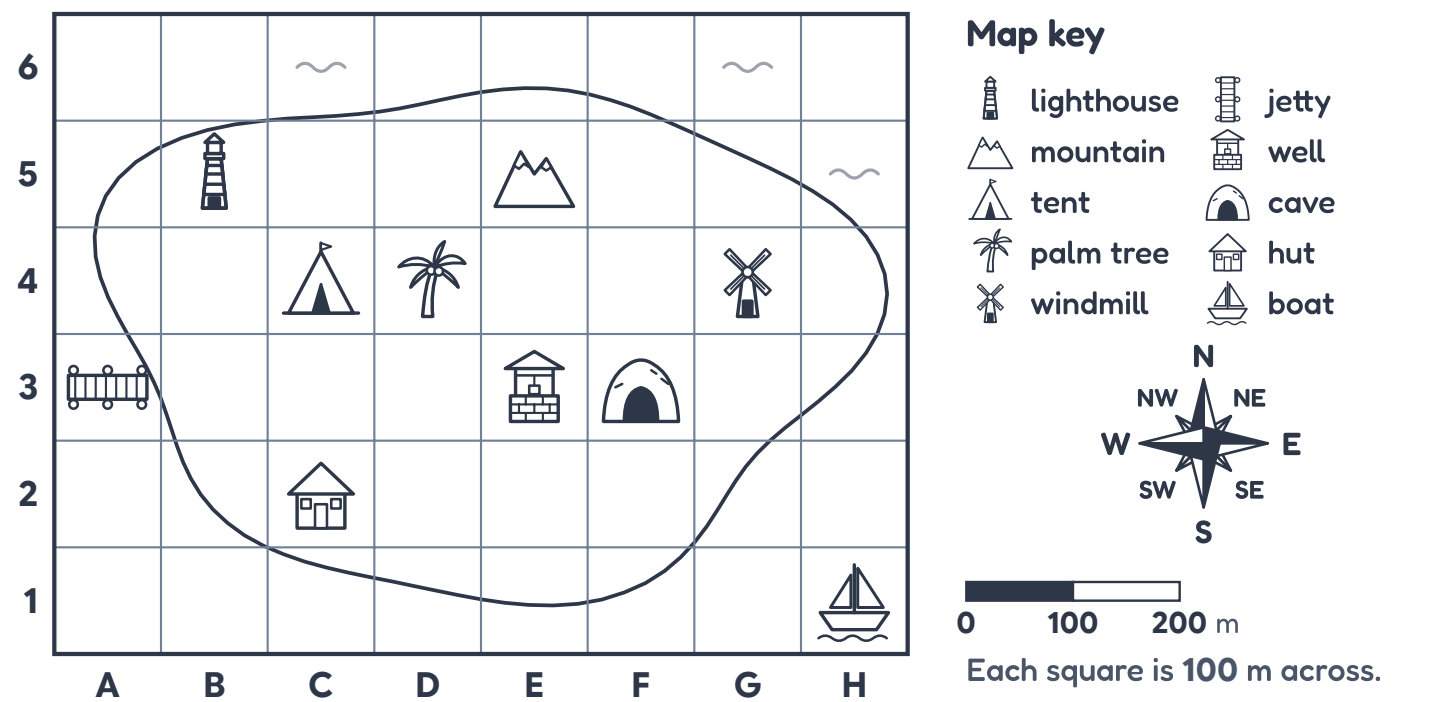
the

 Cut out this ruler, or use your own.



Map Scales and Directions

Follow paths in metres, and say how far and which way.



Follow each path. Which square do you reach? What is there?

Example

1. From the jetty, walk 300 m east, then 100 m north.

D4palm tree
2. From the hut, walk 300 m east, then 100 m north.
3. From the lighthouse, walk 200 m south, then 300 m east.
4. From the windmill, walk 200 m west, then 100 m north.
5. From the cave, walk 100 m north, then 100 m east.

How far is it, and which way?

6. The mountain is m of the lighthouse.
7. The tent is m of the hut.
8. The jetty is m of the well.

Map Scales and Directions

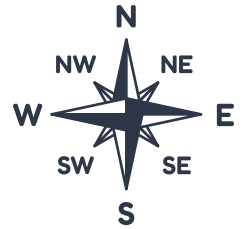
Turn in degrees, clockwise or anticlockwise. Which way do you face?

A whole turn is 360° . A half turn is 180° .

A quarter turn is 90° . A three-quarter turn is 270° .

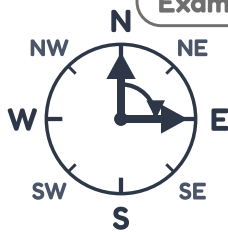
From one compass point to the next is 45° .

Clockwise turns the way the hands of a clock go.



Draw an arrow the way you face after the turn, then write the direction.

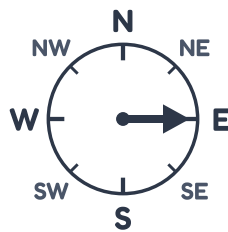
1. **Example**



Face north,
turn 90°
clockwise.

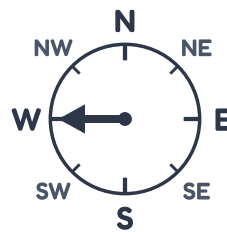
east

2.



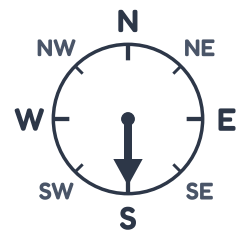
Face east,
turn 180°
anticlockwise.

3.



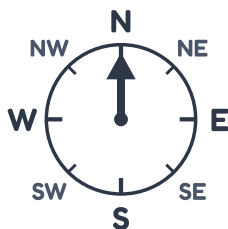
Face west,
turn 90°
anticlockwise.

4.



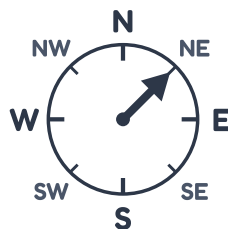
Face south,
turn 180°
clockwise.

5.



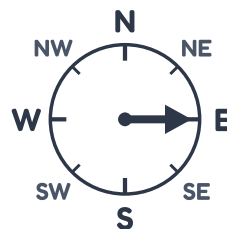
Face north,
turn 45°
clockwise.

6.



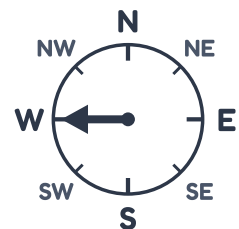
Face north-east,
turn 270°
anticlockwise.

7.



Face east,
turn 135°
clockwise.

8.



Face west,
turn 45°
clockwise.

How many degrees is each turn?

9. Face north. Turn clockwise until you face west.

The turn is _____

10. Face south. Turn anticlockwise until you face east.

The turn is _____

11. Face west. Turn clockwise until you face east.

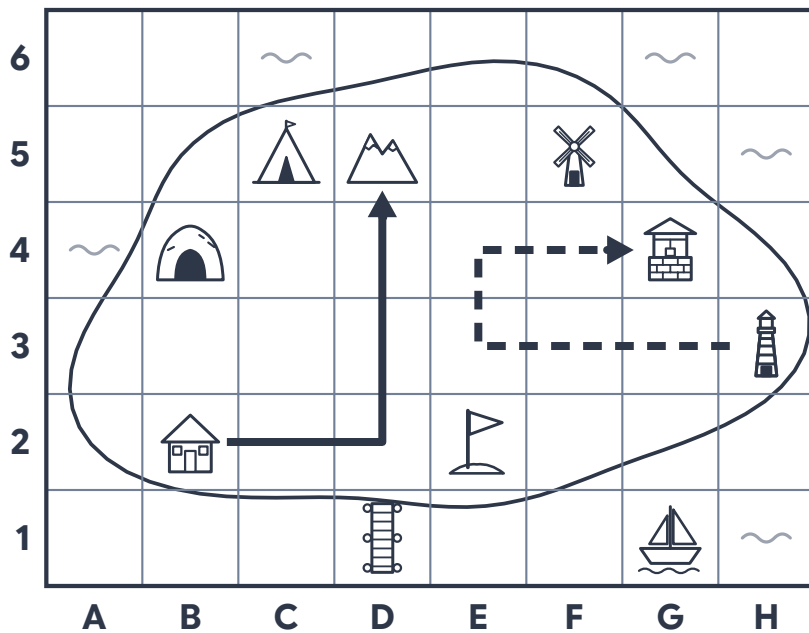
The turn is _____

12. Face north-east. Turn clockwise until you face south.

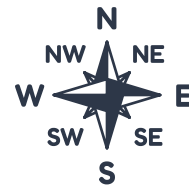
The turn is _____

Map Scales and Directions

Follow and write routes with turns in degrees and distances.



Map key



0 100 200 m

Each square is 100 m across.

Follow each route. Where do you end up?

- Start at the jetty, facing north. Walk 300 m, turn 90° anticlockwise and walk 200 m.
You end up in square B4 at the cave Example
- Start at the tent, facing south. Walk 300 m, turn 90° anticlockwise and walk 200 m.
You end up in square _____ at the _____
- Start at the windmill, facing south. Walk 200 m, turn 270° clockwise and walk 200 m.
You end up in square _____ at the _____

Write the route of each path drawn on the map. Use 90° turns.

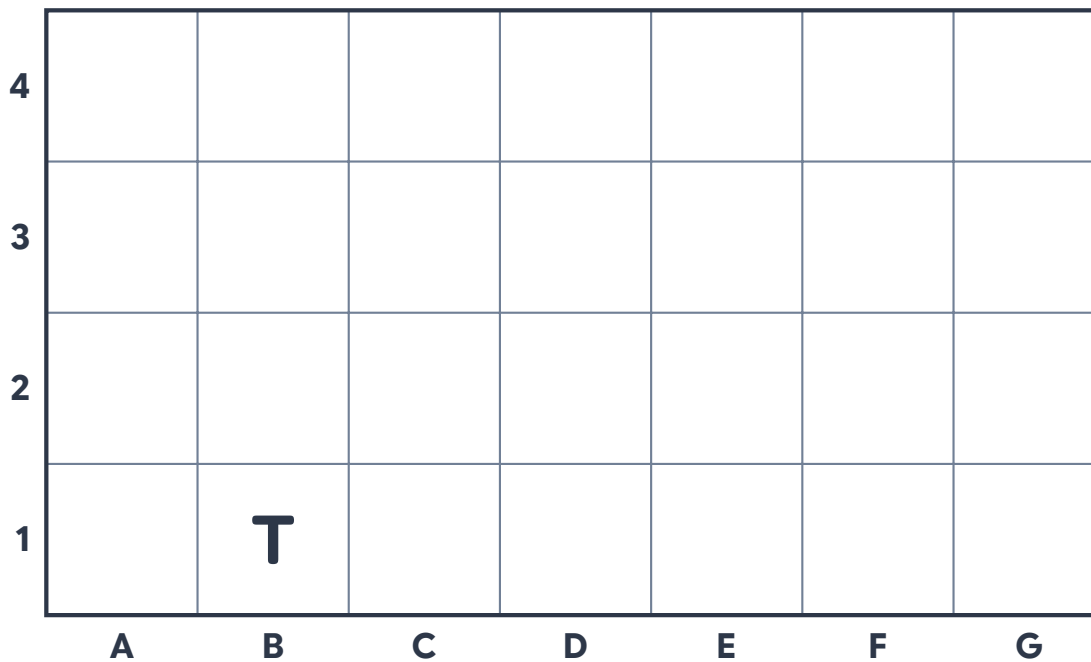
- Path 1, from the hut:** Face _____ and walk _____ m,
turn _____ and walk _____ m.
- - - Path 2, from the lighthouse:** Face _____ and walk _____ m,
turn _____ and walk _____ m,
turn _____ and walk _____ m.

Map Scales and Directions

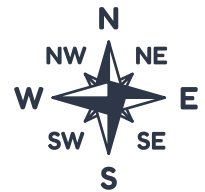
Make a map of the camp from the clues, then answer the questions.

The scale is 1 cm = 50 m, and each square is 2 cm across.

1. So each square stands for 100 m. Example



Map key



Scale: 1 cm = 50 m 0 50 100 150 200 m

Write the letter of each place in its square. The tent is done for you.

- | | |
|--|---|
| 2. The tent is in B1. Example | 3. The well is 300 m north of the tent. |
| 4. The hut is 400 m east of the tent. | 5. The flag is 200 m north of the hut. |
| 6. The cave is 200 m west of the flag. | 7. The mountain is 100 m north of the flag. |

Now use your map.

8. Which square is the cave in? _____
9. How far is it from the well to the mountain? _____ m
10. Which way is the cave from the hut? _____
11. Measure straight from the middle of the tent's square to the mountain's:
 _____ cm on the map = _____ m in real life

Map Scales and Directions

Use the scale to change map distances to real distances, and back.

The scale $1 \text{ cm} = 100 \text{ m}$ means each centimetre on the map is 100 m in real life.

From the map to real life

Example

Scale	On the map	Real life
1. $1 \text{ cm} = 100 \text{ m}$	4 cm	<u>400</u> m
2. $1 \text{ cm} = 50 \text{ m}$	6 cm	<u>300</u> m
3. $1 \text{ cm} = 200 \text{ m}$	5 cm	<u>1,000</u> m
4. $1 \text{ cm} = 500 \text{ m}$	3 cm	<u>1,500</u> m
5. $1 \text{ cm} = 2 \text{ km}$	7 cm	<u>14</u> km
6. $1 \text{ cm} = 250 \text{ m}$	8 cm	<u>2,000</u> m

From real life to the map

Example

Scale	Real life	On the map
7. $1 \text{ cm} = 100 \text{ m}$	900 m	<u>9</u> cm
8. $1 \text{ cm} = 50 \text{ m}$	350 m	<u>7</u> cm
9. $1 \text{ cm} = 200 \text{ m}$	1,600 m	<u>8</u> cm
10. $1 \text{ cm} = 1 \text{ km}$	6 km	<u>6</u> cm
11. $1 \text{ cm} = 250 \text{ m}$	1 km	<u>4</u> cm
12. $1 \text{ cm} = 500 \text{ m}$	2.5 km	<u>5</u> cm

Read each scale bar. How long is the line above it in real life?



Example

1 cm stands for 100 m.

The line is 300 m long.



1 cm stands for 500 m.

The line is 2,500 m long.



1 cm stands for 50 m.

The line is 350 m long.



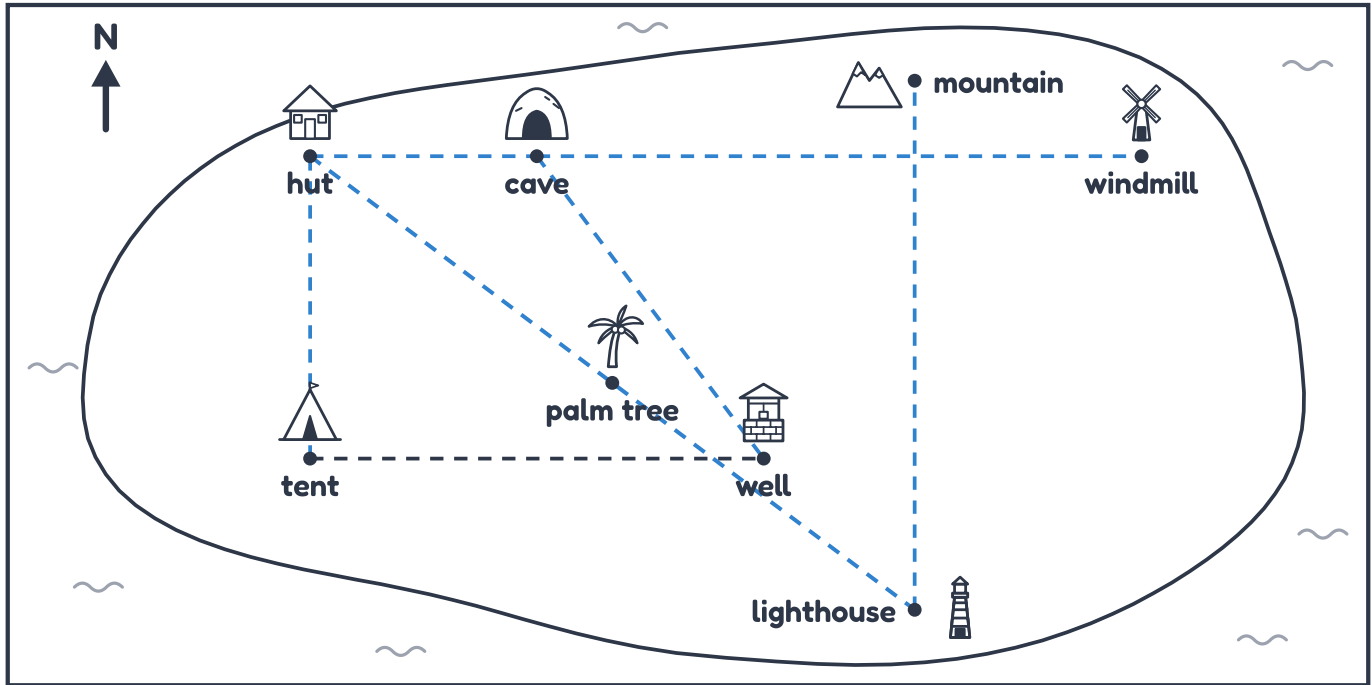
1 cm stands for 250 m.

The line is 750 m long.

Map Scales and Directions

Measure between places on the map, then use the scale.

Measure in a straight line from dot to dot, with your ruler or the one at the bottom.



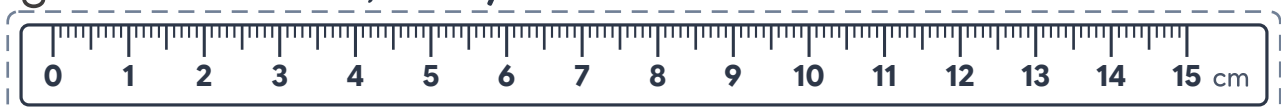
Scale: 1 cm = 200 m



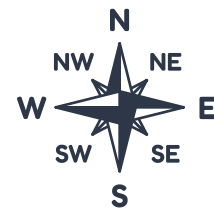
- | | | |
|--|----------------|--|
| 1. From the tent to the well: | Example | <u>6</u> cm on the map = <u>1,200</u> m |
| 2. From the tent to the hut: | | <u>4</u> cm on the map = <u>800</u> m |
| 3. From the hut to the cave: | | <u>3</u> cm on the map = <u>600</u> m |
| 4. From the cave to the well: | | <u>5</u> cm on the map = <u>1,000</u> m |
| 5. From the lighthouse to the mountain: | | <u>7</u> cm on the map = <u>1,400</u> m |
| 6. From the cave to the windmill: | | <u>8</u> cm on the map = <u>1,600</u> m |
| 7. From the hut to the lighthouse: | | <u>10</u> cm on the map = <u>2,000</u> m |
| 8. Which place is exactly 1 km from the hut, in a straight line? | | the <u>palm tree</u> |



Cut out this ruler, or use your own.



	lighthouse		jetty
	mountain		well
	tent		cave
	palm tree		hut
	windmill		boat



Follow each path. Which square do you reach? What is there?

1. From the jetty, walk **300 m** east, then **100 m** north.
2. From the hut, walk **300 m** east, then **100 m** north.
3. From the lighthouse, walk **200 m** south, then **300 m** east.
4. From the windmill, walk **200 m** west, then **100 m** north.
5. From the cave, walk **100 m** north, then **100 m** east.

D4 palm tree

F3 **cave**

E3 well

E5 mountain

G4 windmill

How far is it, and which way?

6. The mountain is 300 m east of the lighthouse.
7. The tent is 200 m north of the hut.
8. The jetty is 400 m west of the well.

Map Scales and Directions

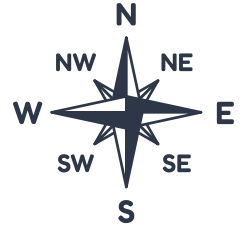
Turn in degrees, clockwise or anticlockwise. Which way do you face?

A whole turn is 360° . A half turn is 180° .

A quarter turn is 90° . A three-quarter turn is 270° .

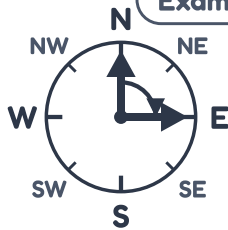
From one compass point to the next is 45° .

Clockwise turns the way the hands of a clock go.



Draw an arrow the way you face after the turn, then write the direction.

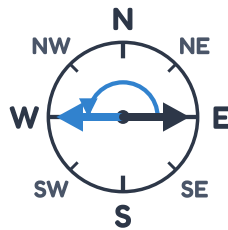
1. **Example**



Face north,
turn 90°
clockwise.

east

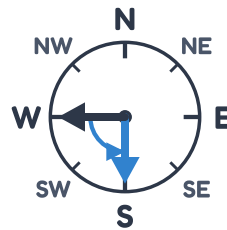
2.



Face east,
turn 180°
anticlockwise.

west

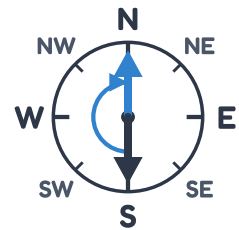
3.



Face west,
turn 90°
anticlockwise.

south

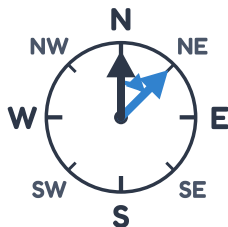
4.



Face south,
turn 180°
clockwise.

north

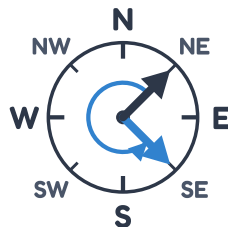
5.



Face north,
turn 45°
clockwise.

north-east

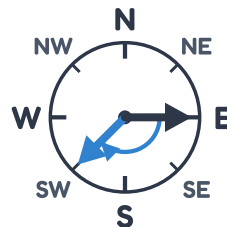
6.



Face north-east,
turn 270°
anticlockwise.

south-east

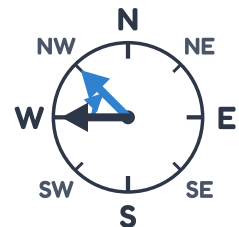
7.



Face east,
turn 135°
clockwise.

south-west

8.



Face west,
turn 45°
clockwise.

north-west

How many degrees is each turn?

9. Face north. Turn clockwise until you face west.

The turn is 270°

10. Face south. Turn anticlockwise until you face east.

The turn is 90°

11. Face west. Turn clockwise until you face east.

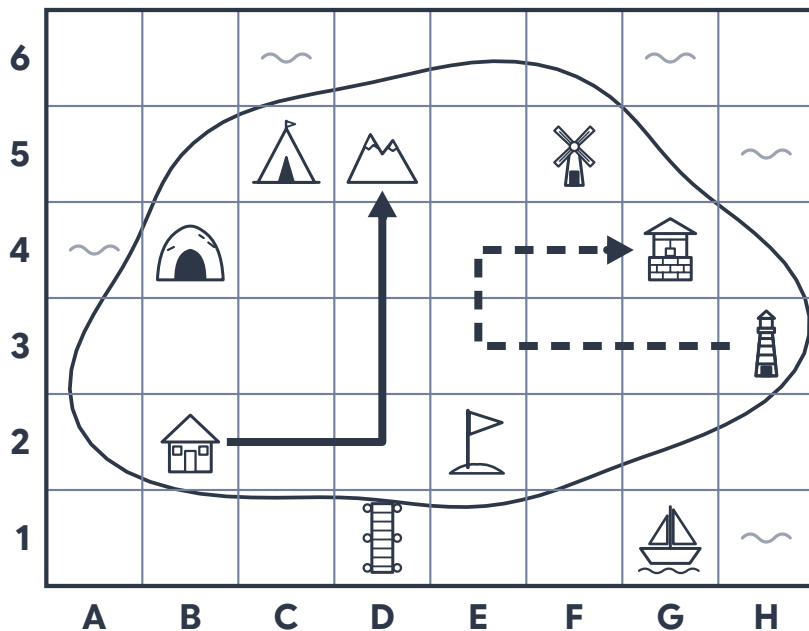
The turn is 180°

12. Face north-east. Turn clockwise until you face south.

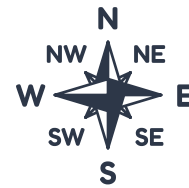
The turn is 135°

Map Scales and Directions

Follow and write routes with turns in degrees and distances.



Map key



0 100 200 m

Each square is 100 m across.

Follow each route. Where do you end up?

- Start at the jetty, facing north. Walk 300 m, turn 90° anticlockwise and walk 200 m.
You end up in square B4 at the cave Example
- Start at the tent, facing south. Walk 300 m, turn 90° anticlockwise and walk 200 m.
You end up in square E2 at the flag
- Start at the windmill, facing south. Walk 200 m, turn 270° clockwise and walk 200 m.
You end up in square H3 at the lighthouse

Write the route of each path drawn on the map. Use 90° turns.

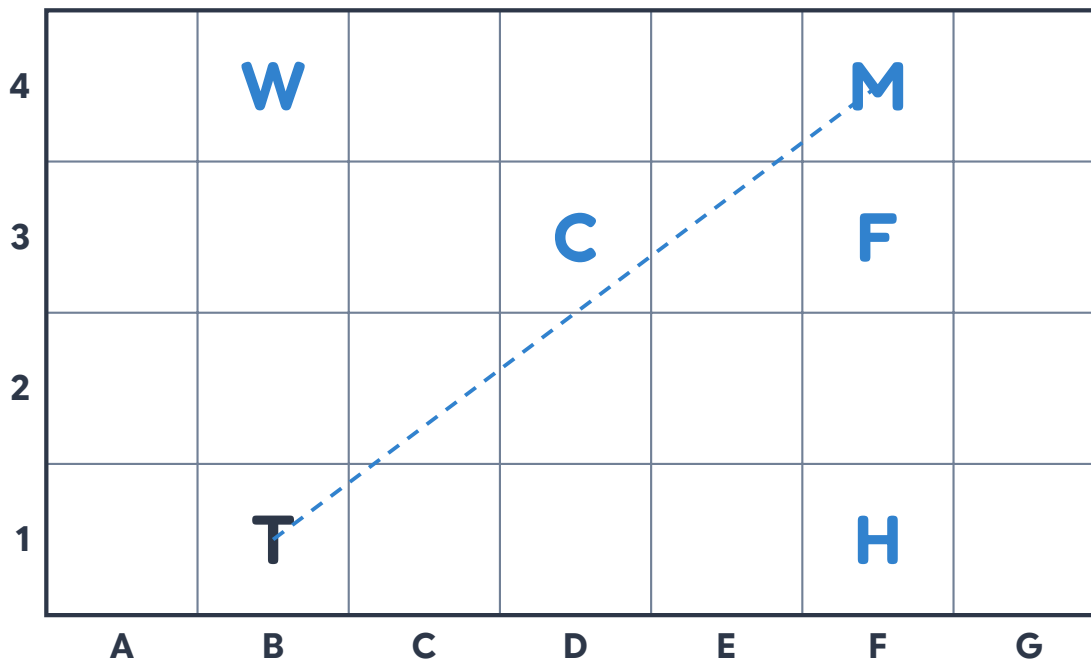
- Path 1, from the hut:** Face east and walk 200 m,
turn 90° anticlockwise and walk 300 m.
- - - Path 2, from the lighthouse:** Face west and walk 300 m,
turn 90° clockwise and walk 100 m,
turn 90° clockwise and walk 200 m.

Map Scales and Directions

Make a map of the camp from the clues, then answer the questions.

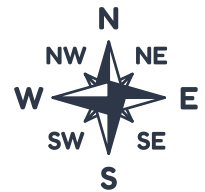
The scale is 1 cm = 50 m, and each square is 2 cm across.

1. So each square stands for 100 m. Example



Scale: 1 cm = 50 m 0 50 100 150 200 m

Map key



Write the letter of each place in its square. The tent is done for you.

- | | |
|--|---|
| 2. The tent is in B1. Example | 3. The well is 300 m north of the tent. |
| 4. The hut is 400 m east of the tent. | 5. The flag is 200 m north of the hut. |
| 6. The cave is 200 m west of the flag. | 7. The mountain is 100 m north of the flag. |

Now use your map.

- | | |
|--|---|
| 8. Which square is the cave in? | <u>D3</u> |
| 9. How far is it from the well to the mountain? | <u>400</u> m |
| 10. Which way is the cave from the hut? | <u>north-west</u> |
| 11. Measure straight from the middle of the tent's square to the mountain's: | |
| | <u>10</u> cm on the map = <u>500</u> m in real life |