

WA5MMGTW6

Two-dimensional space and structures

Core + Challenge

NAPLAN-style

Grid References and Directions

I can use grid references, grid coordinates and compass directions to describe positions and pathways.

Name: _____ Date: _____ Score: _____ / 56

Key idea

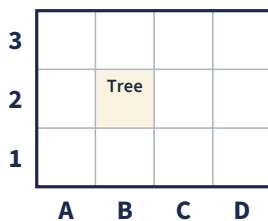
A **grid reference** names a **square**: the letter across the bottom first, then the number up the side, e.g. **B2**.

Coordinates name a **point** where grid lines cross: go **across** first, then **up**, e.g. (3, 2).

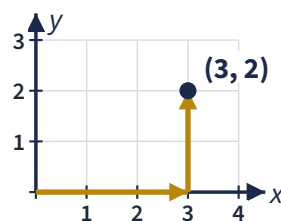
The compass points are north, south, east and west, with north-east, south-east, south-west and north-west between them.

A **quarter turn** clockwise is a turn to the **right**; a quarter turn anticlockwise is a turn to the **left**.

Grid reference B2



Coordinates (3, 2)

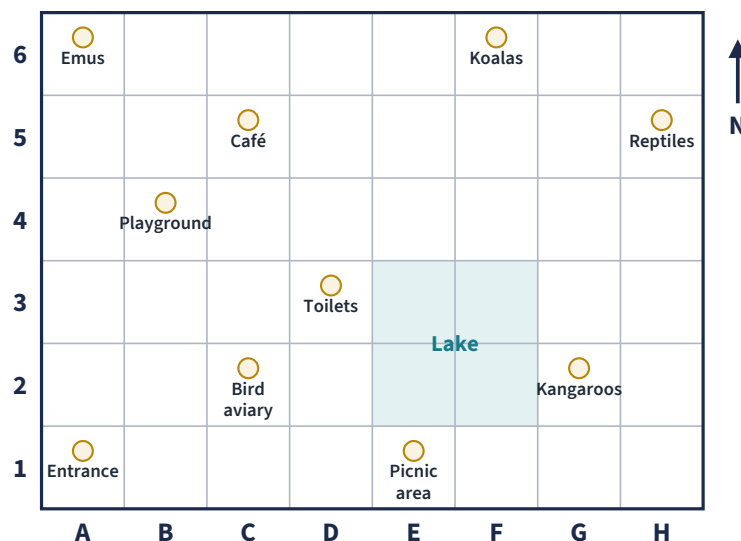


A

Warm up *find, name and describe*

/ 16 marks

This is a map of Wandj Wildlife Park. Write the **grid reference** of each place. 1 mark each.



- 1 Café _____ 2 Koalas _____ 3 Kangaroos _____ 4 Playground _____ 5 Toilets _____

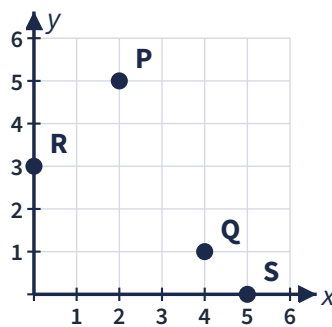
What is in each square of the map? 1 mark each.

- 6 Square A6 _____ 7 Square H5 _____ 8 Square E1 _____

Use the map. Write the compass direction. 1 mark each.

- 9 From the **Entrance**, the **Emus** are to the _____ 10 From the **Café**, the **Reptiles** are to the _____
- 11 From the **Toilets**, the **Bird aviary** is to the _____ 12 From the **Playground**, the **Café** is to the _____

Write the coordinates of each point. 1 mark each.



- 13 P (____, ____) 14 Q (____, ____) 15 R (____, ____) 16 S (____, ____)

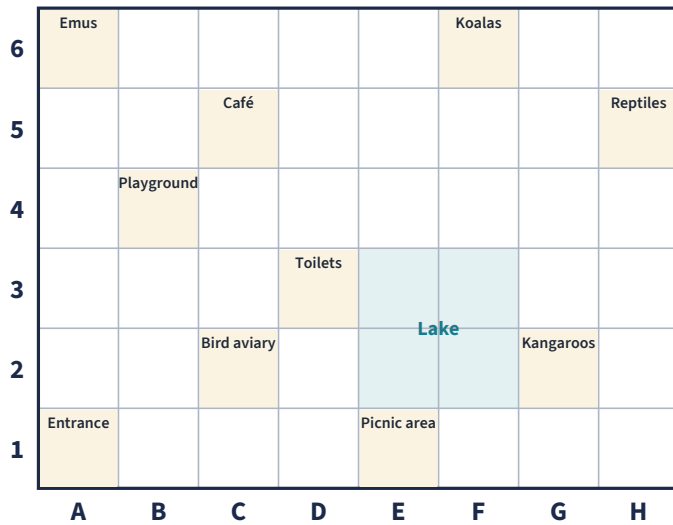
B Practise *use the skill*

/ 21 marks

- 1 Which square is directly **south-west** of C4? Circle it. [1 mark]
- B3 D5 B5 D3
- 2 On the Warm up map, each step from one square to the next is **50 m**. How far is it [2 marks]
- a) from the Café straight east to the Reptiles? b) from the Entrance straight east to the Picnic area?
- a) _____
- b) _____

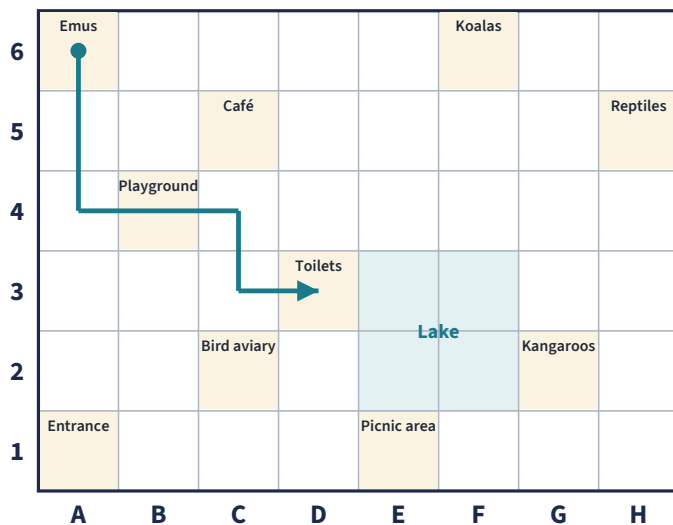
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- 3 Ava starts at the **Entrance** (A1). She walks **2 squares east**, then **1 square north**. [2 marks]
Draw her path. Where is she now? Give the grid reference.



Answer: _____

- 4 Describe the path shown, from the **Emus** to the **Toilets**. Use compass directions and numbers of squares. [3 marks]

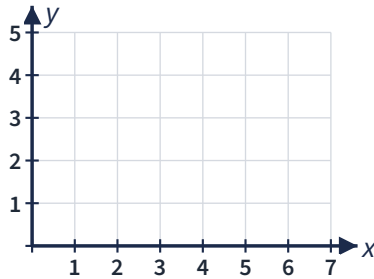


- 5 Use the map in question 3. Jack starts at the **Entrance** facing **north**. He walks forward **2 squares**, turns **right**, walks **2 squares**, turns **left** and walks **2 squares**. Where does he finish? Which way is he facing? [3 marks]

Answer: _____

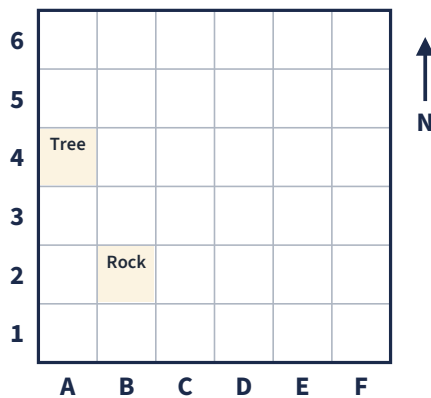
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- 6 Plot the points **(1, 1)**, **(5, 1)**, **(6, 4)** and **(2, 4)**. Join them in order and back to the start. What shape have you made? [3 marks]



Answer: _____

- 7 Pirate Pete hid his treasure. **Clue 1:** it is somewhere directly **north-east** of the rock. **Clue 2:** it is somewhere directly **east** of the tree. Which square is it in? Mark it with an X. [2 marks]

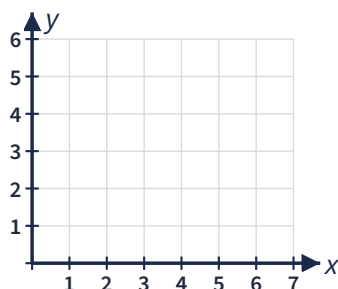


Answer: _____

- 8 Use the park map in the Warm up. Mia walks from the **Entrance** to the **Reptiles**. Each move is one square north, south, east or west. She cannot walk through the lake. Describe a path with the **fewest** moves. How many moves is it? [3 marks]

Answer: _____

- 9 A rectangular garden bed has corners at **(1, 2)**, **(6, 2)** and **(6, 5)**. **a)** Where is the fourth corner? **b)** Is the point (3, 4) inside the garden bed? [2 marks]



a) _____

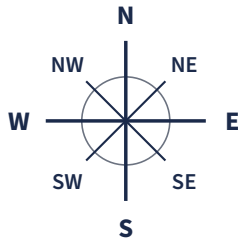
b) _____

C

Think it through *explain your thinking*

/ 10 marks

- 1 Ruby is facing **south**. She says, “East is on my **left**.” Do you agree with Ruby? [2 marks]
Explain. You may draw a sketch.



- 2 **True or false?** “The grid reference B3 and the coordinates (2, 3) describe the same thing.” Explain. [2 marks]

- 3 **Always, sometimes or never true?** “If you turn **left** twice, you face the same way as when you started.” Circle one and explain. [2 marks]

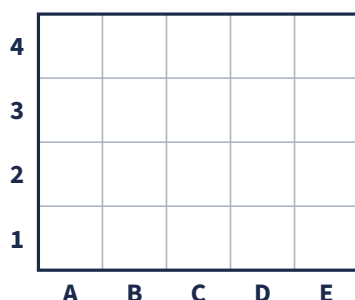
Always

Sometimes

Never

- 4 Which is the **odd one out**? a quarter turn clockwise, a three-quarter turn anticlockwise, a turn to the right, a turn to the left. Explain. [2 marks]

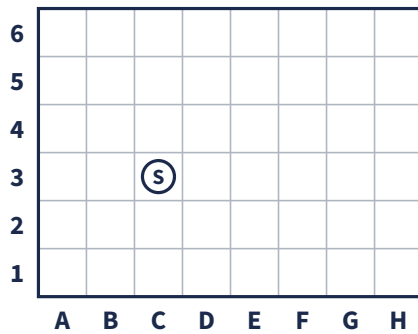
- 5 Maya’s directions from A1 are “3 east, then 2 north”. Leo’s are “2 north, then 3 east”. Do they finish in the same square? Do they walk through the same squares? Explain. [2 marks]



D**Challenge** *stretch yourself*

/ 9 marks

- 1 A robot starts in square **C3**. It makes **exactly 2 moves**. Each move is one square north, south, east or west. **Find all** the squares where it could finish. How do you know you have them all? [3 marks]



Answer: _____

- 2 **Work backwards.** Ben walked **2 squares south**, then **3 squares west**, then **1 square north**. He finished at the **Café (C5)** on the park map. Where did he start? Explain how you worked it out. [3 marks]

Answer: _____

- 3 Use the park map in the Warm up. A robot starts at the **Entrance** facing **north**. Its program is: **forward 3, turn right, forward 2, turn left, forward 1, turn right, forward 4, turn right, forward 3**. Where does it finish, and which way is it facing? List the squares where it turns. [3 marks]

Answer: _____

How did I go?Warm up ____ / 16 Practise ____ / 21 Think it through ____ / 10 Challenge ____ / 9 **Total ____ / 56**Want help with Year 5 maths? Our tutors make it click. **Book a free trial class at [edulift.com.au](https://www.edulift.com.au)**