

WA6MNAUN1

Understanding number

Core + Challenge

Integers on a Number Line

I can use positive and negative integers for real situations, and order them on a number line.

Name: _____ Date: _____ Score: _____ / 56

Key idea

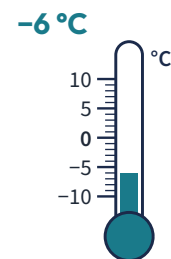
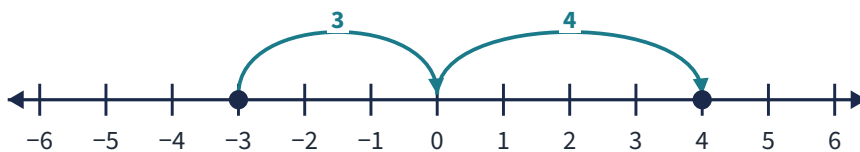
Integers are whole numbers and their opposites: ..., -3, -2, -1, 0, 1, 2, 3, ... Zero is neither positive nor negative.

Negative integers are less than zero: below freezing, below sea level, below the ground floor, money owed.

On a number line, numbers get **bigger** to the **right**. So $-5 < -2$, because -5 is further **left**.

Example: from -3 to 4, count **3 steps** to zero, then **4 more**. The difference is $3 + 4 = 7$.

Counting steps from -3 to 4

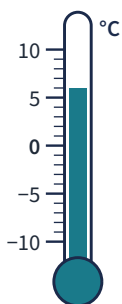


A Warm up *read, mark and compare*

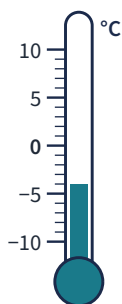
/ 16 marks

Read each thermometer, or shade it to show the temperature. 1 mark each.

1 Temperature?



2 Temperature?



3 Shade -7 °C



4 Shade 3 °C



Write $<$ or $>$ in each box. 1 mark each.

5 -3 2

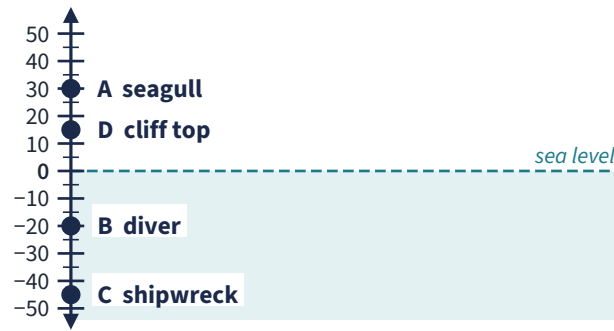
6 -7 -4

7 0 -5

8 -12 -21

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Heights **above** sea level are positive. Heights **below** sea level are negative. Write the integer (in metres) for each point. 1 mark each.



- 9 A seagull
- 10 B diver
- 11 C shipwreck
- 12 D cliff top
-
-
-
-

Mark each integer on the number line with a dot and write its letter above it. 1 mark each.



- 13 Mark P at -7
- 14 Mark Q at 4
- 15 Mark R at -2
- 16 Mark S at -9

B Practise *use the skill*

/ 21 marks

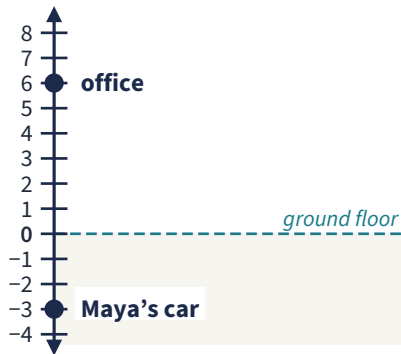
- 1 One winter morning the temperatures were: Perth **7 °C**, Canberra **-4 °C**, Thredbo **-9 °C**, Hobart **2 °C**, Alice Springs **-1 °C**. Mark each town on the number line using its first letter. Then write the towns from **coldest** to **warmest**. How many degrees warmer was Perth than Thredbo? [3 marks]



Answer: _____

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- 2 Maya parks her car on level -3 of a car park. She takes the lift up to her office on level 6 . **a)** How many floors does the lift travel? **b)** Which is further from the ground floor: Maya's car or level 2? Explain. [2 marks]



Answer: _____

- 3 Write an integer for each situation. [3 marks]

Situation	Integer	Situation	Integer
5 degrees below zero		3 floors below the ground floor	
a deposit of \$40 into a bank account		a plane 900 m above sea level	
a diver 12 m below sea level		owing a friend \$15	

- 4 On top of **Bluff Knoll** it was -2°C at dawn. By midday it was 13°C . Draw jumps on the number line to show the change. How many degrees did the temperature rise? [2 marks]



Answer: _____

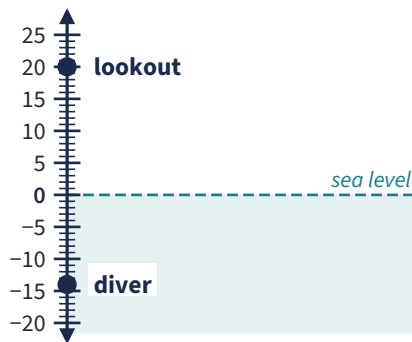
- 5 Five friends' bank balances are shown. A negative balance means the person owes the bank money. **a)** Write the names from the **lowest** balance to the **highest**. **b)** How much more money does Ava have than Ben? [2 marks]

Name	Ava	Ben	Cody	Dina	Eli
Balance	\$35	-\$20	-\$45	\$5	\$0

Answer: _____

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- 6 Off Rottnest Island, a diver is at **-14 m** and a lookout on the cliff is at **20 m**. **a)** [2 marks]
How much higher is the lookout than the diver? **b)** A turtle is **halfway** between the diver and sea level. Mark it on the line and write its height.



Answer: _____

- 7 Each number line counts in equal steps. Write the missing numbers in the boxes. [3 marks]

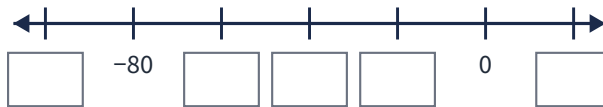
a)



b)



c)



- 8 The table shows the lowest temperature each day in Thredbo. **a)** Which day was the coldest? **b)** What is the difference between the highest and lowest of these temperatures? [2 marks]

Day	Mon	Tue	Wed	Thu	Fri
Lowest	-3 °C	1 °C	-6 °C	-2 °C	-5 °C

Answer: _____

- 9 In golf, a score **below par** is written as a negative number. The **lowest** score wins. The scores were: Hannah **+2**, Min-jun **-4**, Grace **0**, Tom **-1**, Ruby **+3**. **a)** [2 marks]
Write the players in order from 1st to 5th. **b)** How many strokes separate 1st and 5th?

Answer: _____

C

Think it through explain your thinking

/ 10 marks

- 1 Jack says, “-8 is bigger than -3 because 8 is bigger than 3.” Do you agree with Jack? Explain, using a number line or a real-life example. [2 marks]

- 2 **True or false?** “The difference between -4 and 5 is 1.” Show the jumps on the number line to prove your answer. [2 marks]



- 3 **Always, sometimes or never true?** “Of two integers, the one further from zero is bigger.” Circle one and give examples. [2 marks]

Always / Sometimes / Never

- 4 Which statement is the **odd one out**? $-3 < -1$, $-10 < -12$, $0 > -4$, $-6 < 2$ Explain your choice. [2 marks]

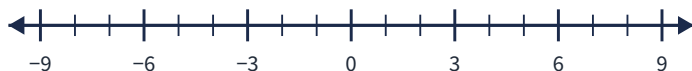
- 5 Sort these integers into the table: -8, -3, 0, 5, -12, 7, -1, 10. Where did you put **0**? Explain why. [2 marks]

	Even	Odd
Negative		
Not negative		

D**Challenge** *stretch yourself*

/ 9 marks

- 1 Two integers are **8 steps apart** on a number line. One is **negative** and the other is **positive**. Find **all** the possible pairs. How do you know you have found them all? [3 marks]



Answer: _____

- 2 Use these heights: Mount Kosciuszko **2228 m**, Bluff Knoll **1099 m**, Kati Thanda–Lake Eyre **-15 m** (below sea level). A diver off Rottnest is at **-30 m**. **a)** How much higher is Mt Kosciuszko than Lake Eyre? **b)** How much lower is the diver than Lake Eyre? **c)** How far is it from the diver up to the top of Bluff Knoll? [3 marks]

Answer: _____

- 3 **a)** M is **halfway** between -9 and 3 on a number line. What is M? **b)** -2 is halfway between N and 6. Work backwards to find N. Use the number line to help. [3 marks]



Answer: _____

How did I go?Warm up ____ / 16 Practise ____ / 21 Think it through ____ / 10 Challenge ____ / 9 **Total ____ / 56**Want help with Year 6 maths? Our tutors make it click. **Book a free trial class at [edulift.com.au](https://www.edulift.com.au)**