

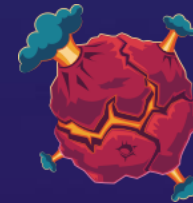


# MathShed

Year 5/6

Home Learning

Lesson 3: To be able to use line graphs to solve problems





**MathShed**

To be able to use line graphs to solve problems

## Success criteria:

- ✓ I can use my knowledge of number lines to read values on horizontal and vertical lines, drawing vertical and horizontal lines to give accurate readings
- ✓ I can explain my reasoning when using my knowledge of number lines to read values on horizontal and vertical lines, drawing vertical and horizontal lines to give accurate readings



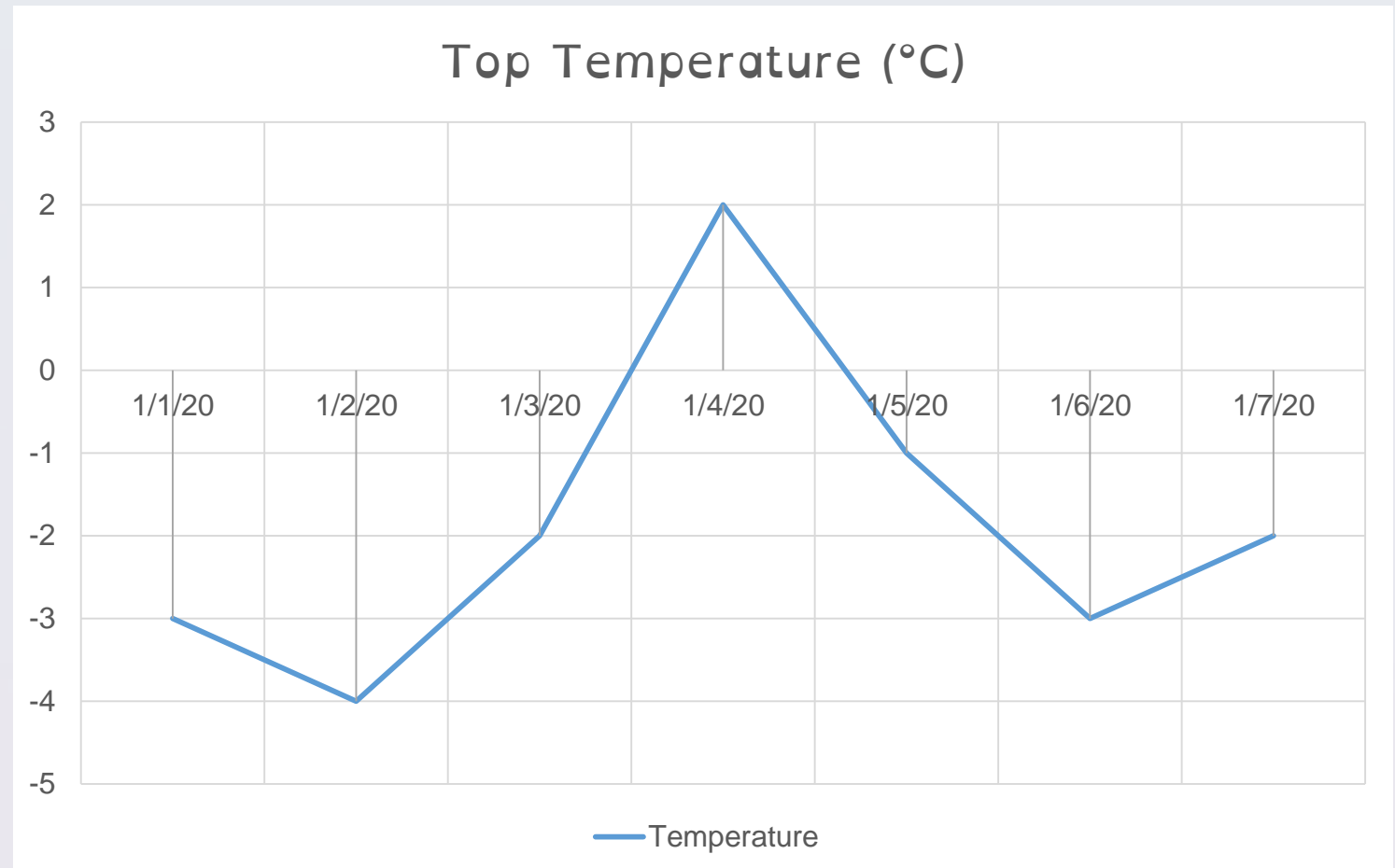
**MathShed**

To be able to use line graphs to solve problems

**Starter:**

Which date is the odd one out?

Explain your answer.





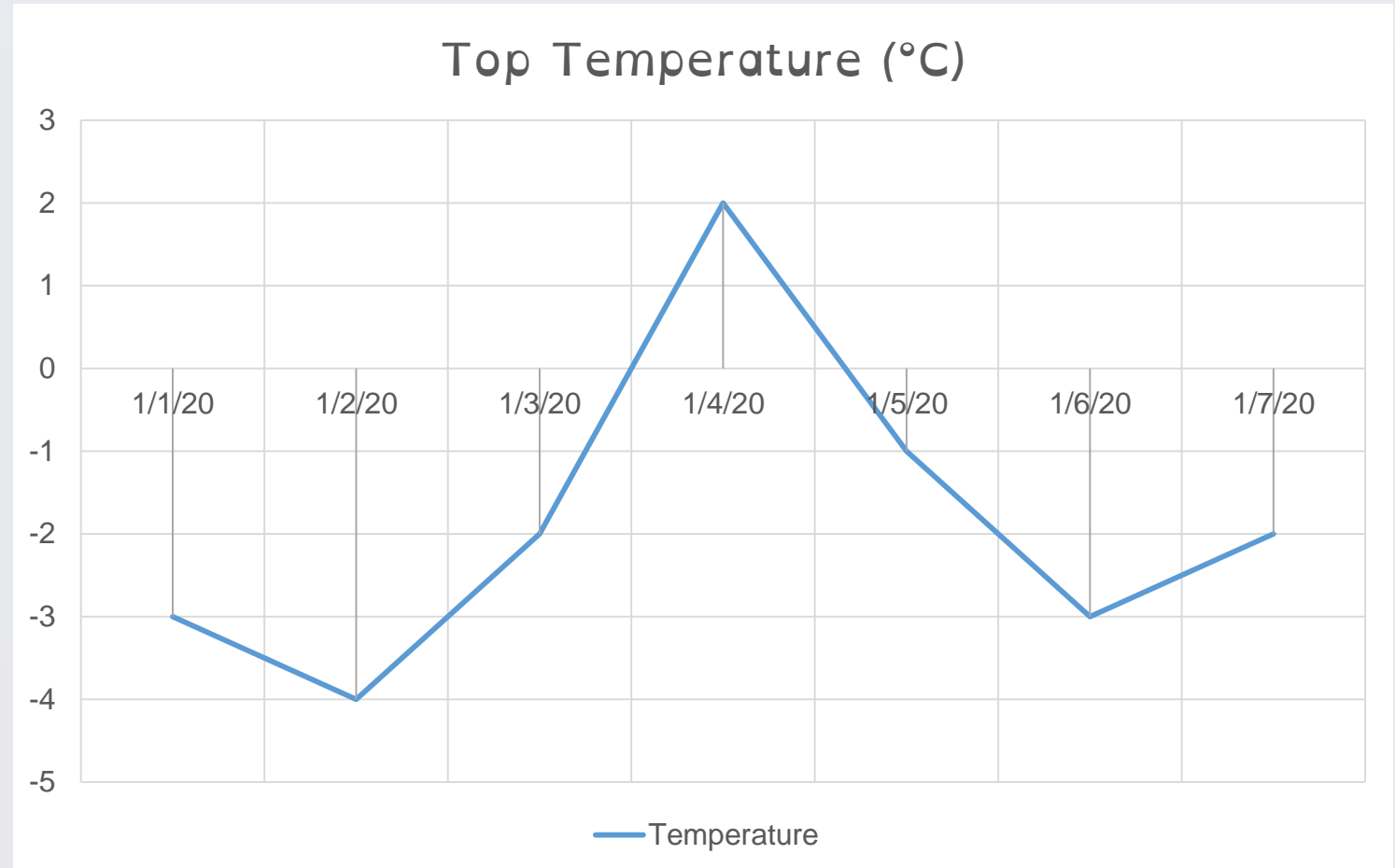
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To be able to use line graphs to solve problems

**Starter:**

Which date is the odd one out?

04/01/2019 is the odd one out as it's only date that has a top temperature above freezing.





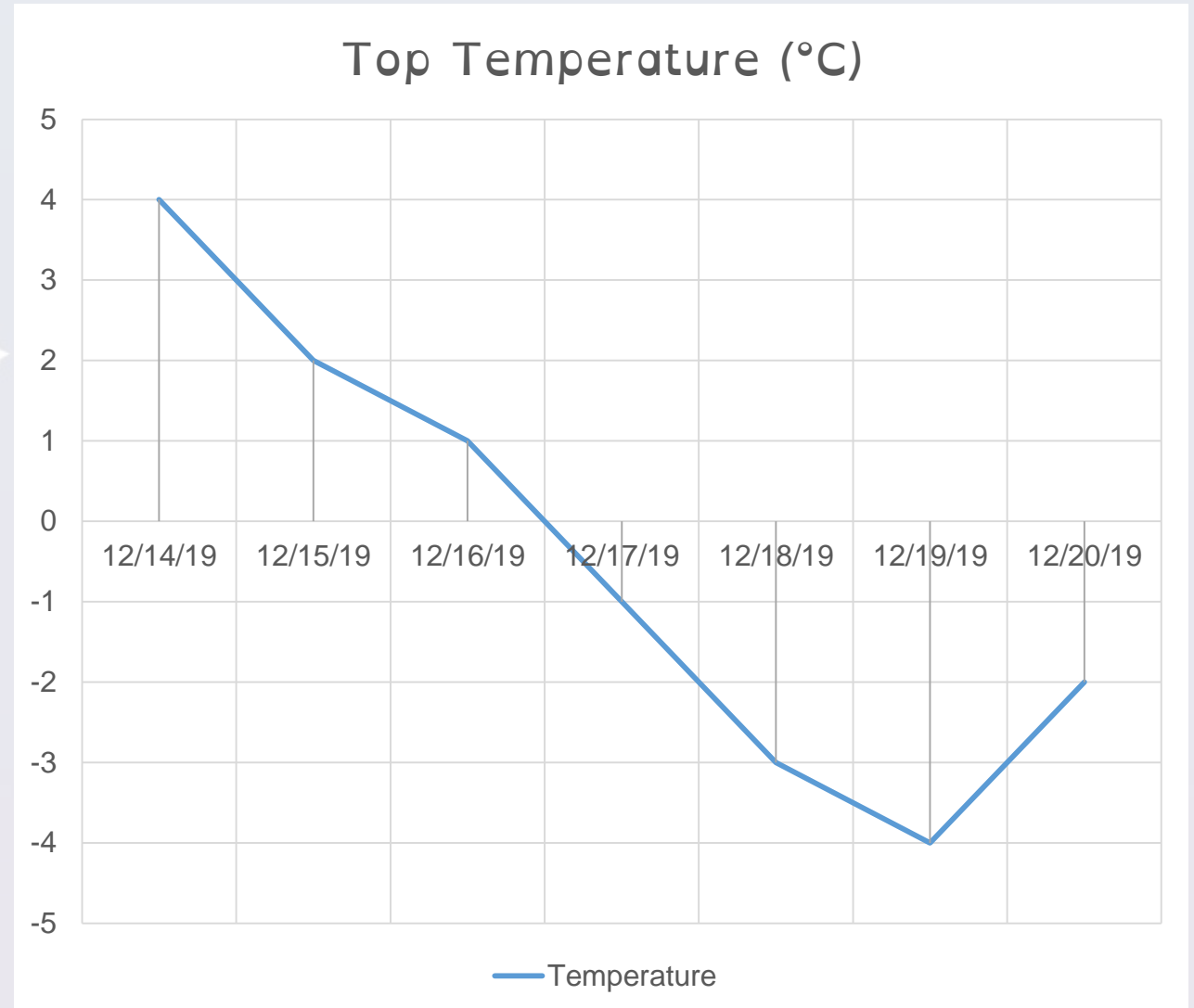
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To be able to use line graphs to solve problems

Talking Time:

Answer the following...

Which date had the lowest temperature?





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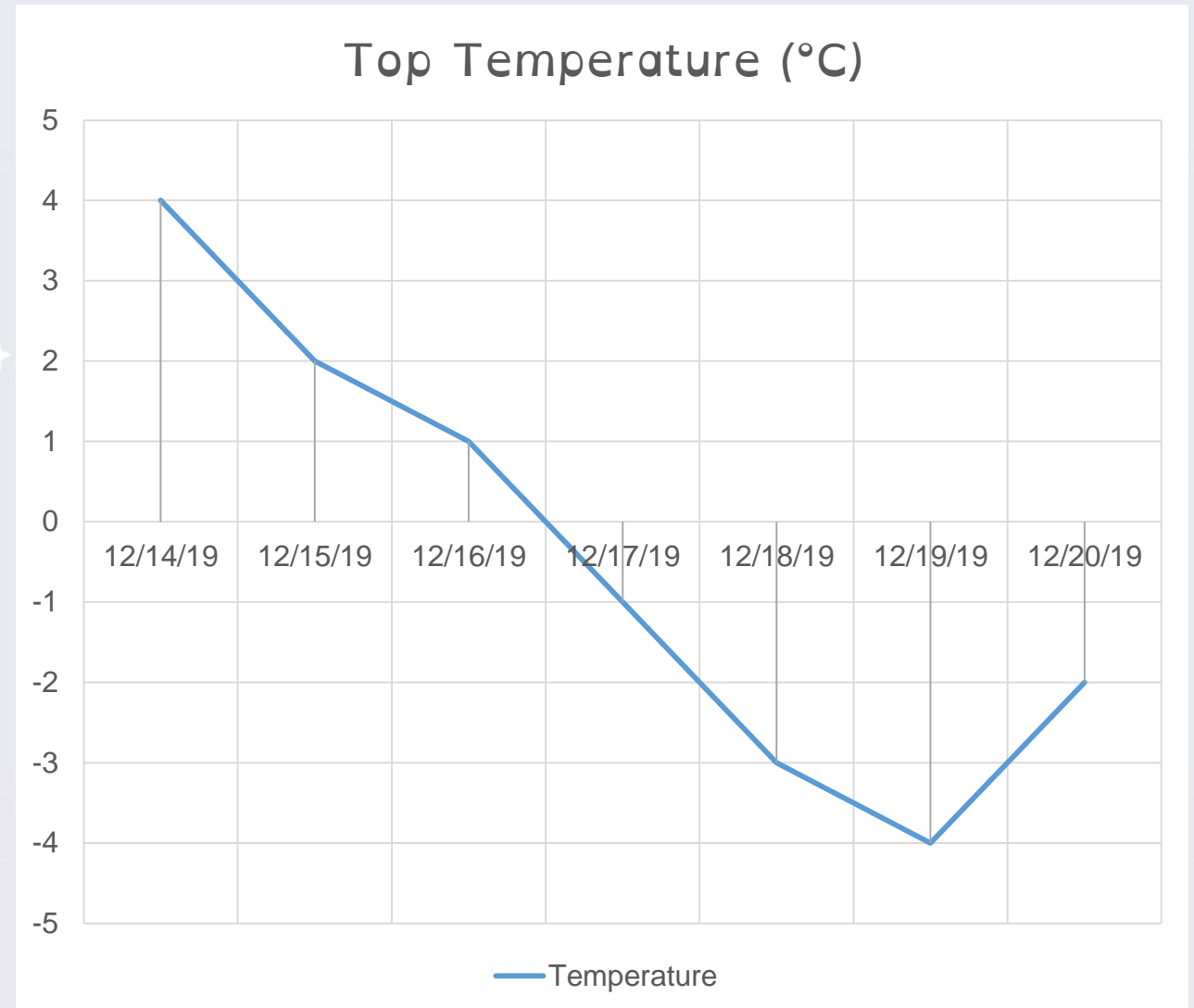
To be able to use line graphs to solve problems

Talking Time:

Answer the following...

Which date had the lowest temperature?

The lowest top temperature (-4 °C) was recorded on 19/12/2019





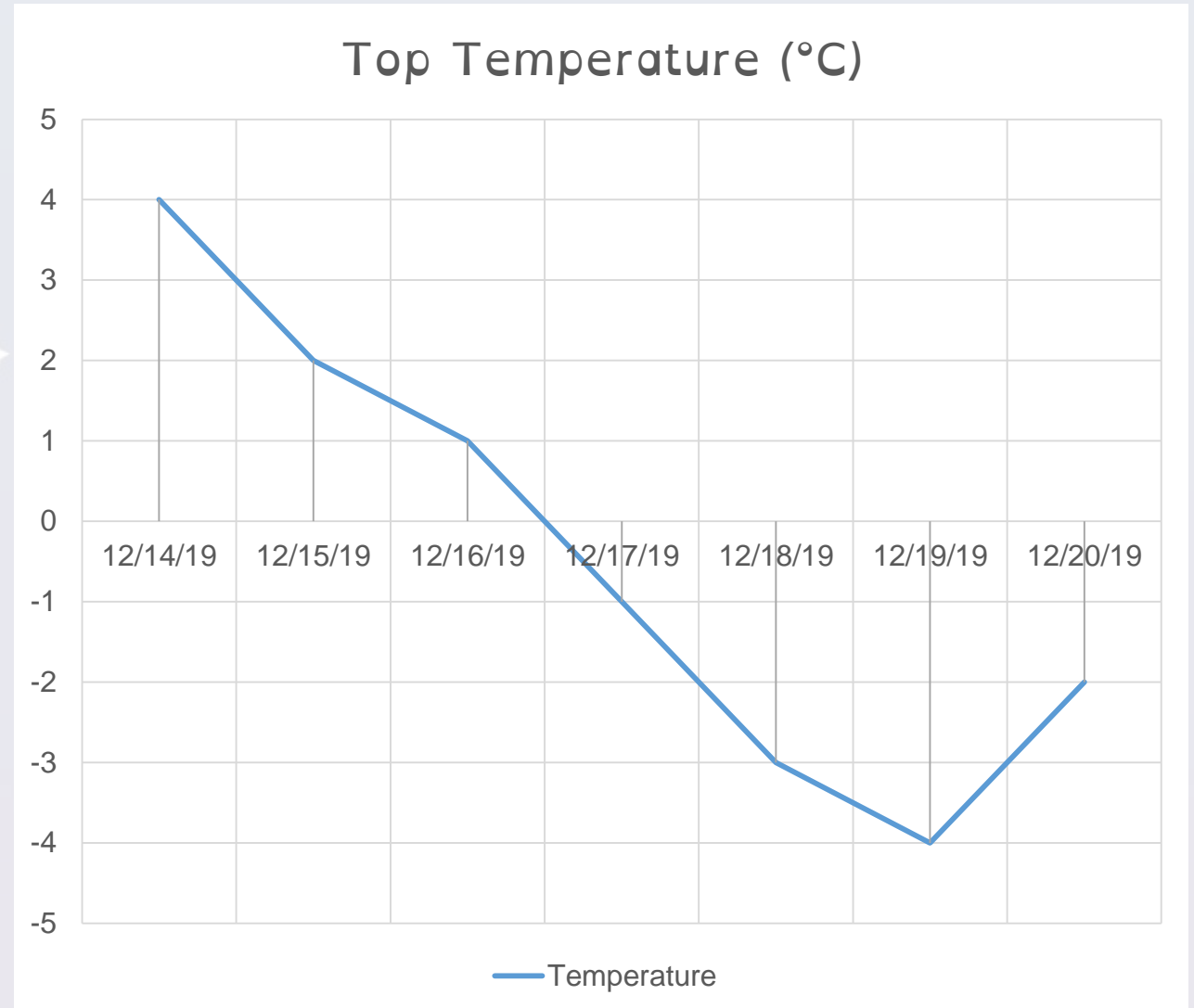
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To be able to use line graphs to solve problems

**Talking Time:**

Answer the following...

What is the difference between the hottest and coldest day?





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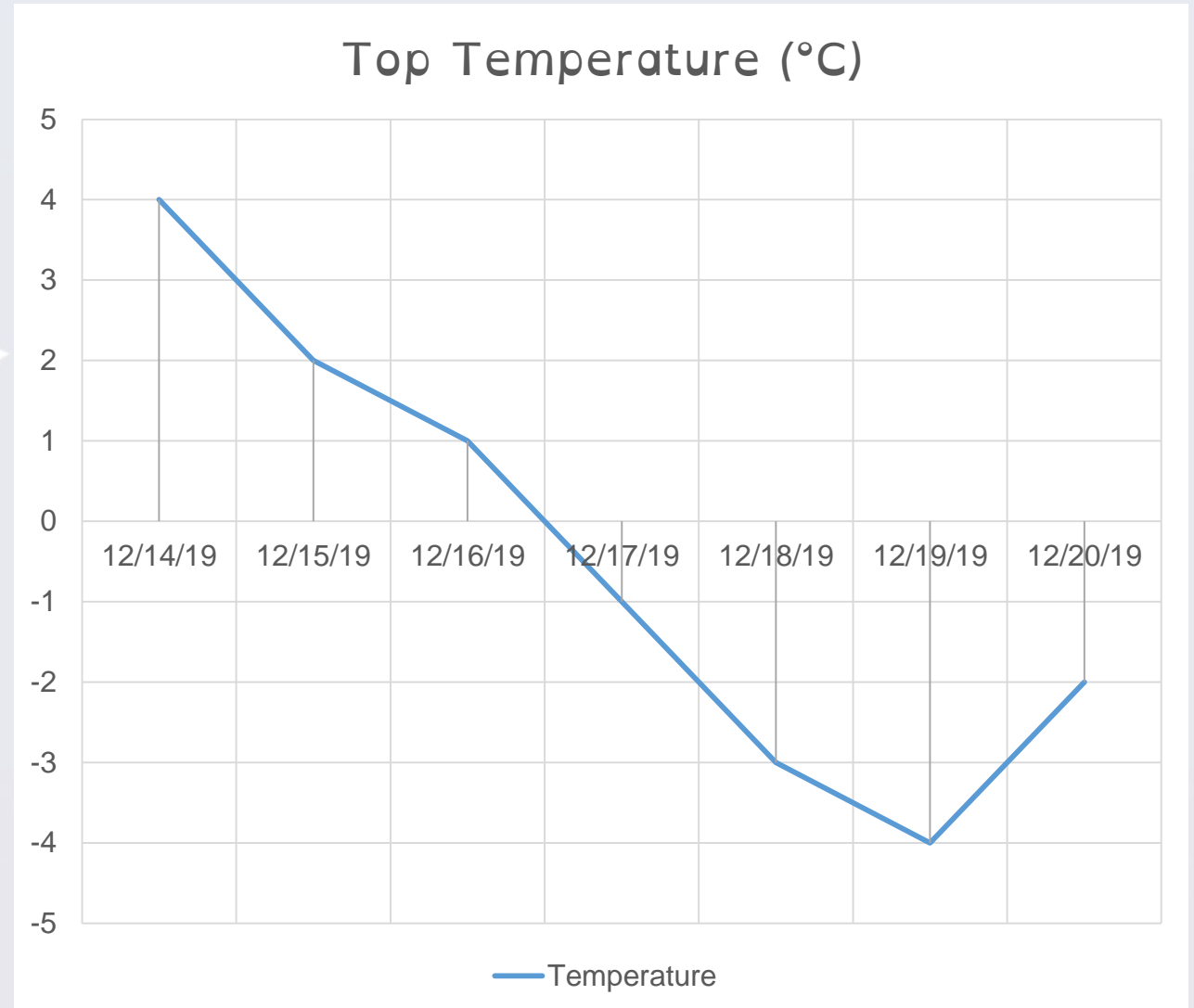
To be able to use line graphs to solve problems

## Talking Time:

Answer the following...

What is the difference between the hottest and coldest day?

The temperature difference between the hottest day ( $4^{\circ}\text{C}$ ) and coldest day ( $-4^{\circ}\text{C}$ ) is  $8^{\circ}\text{C}$ .







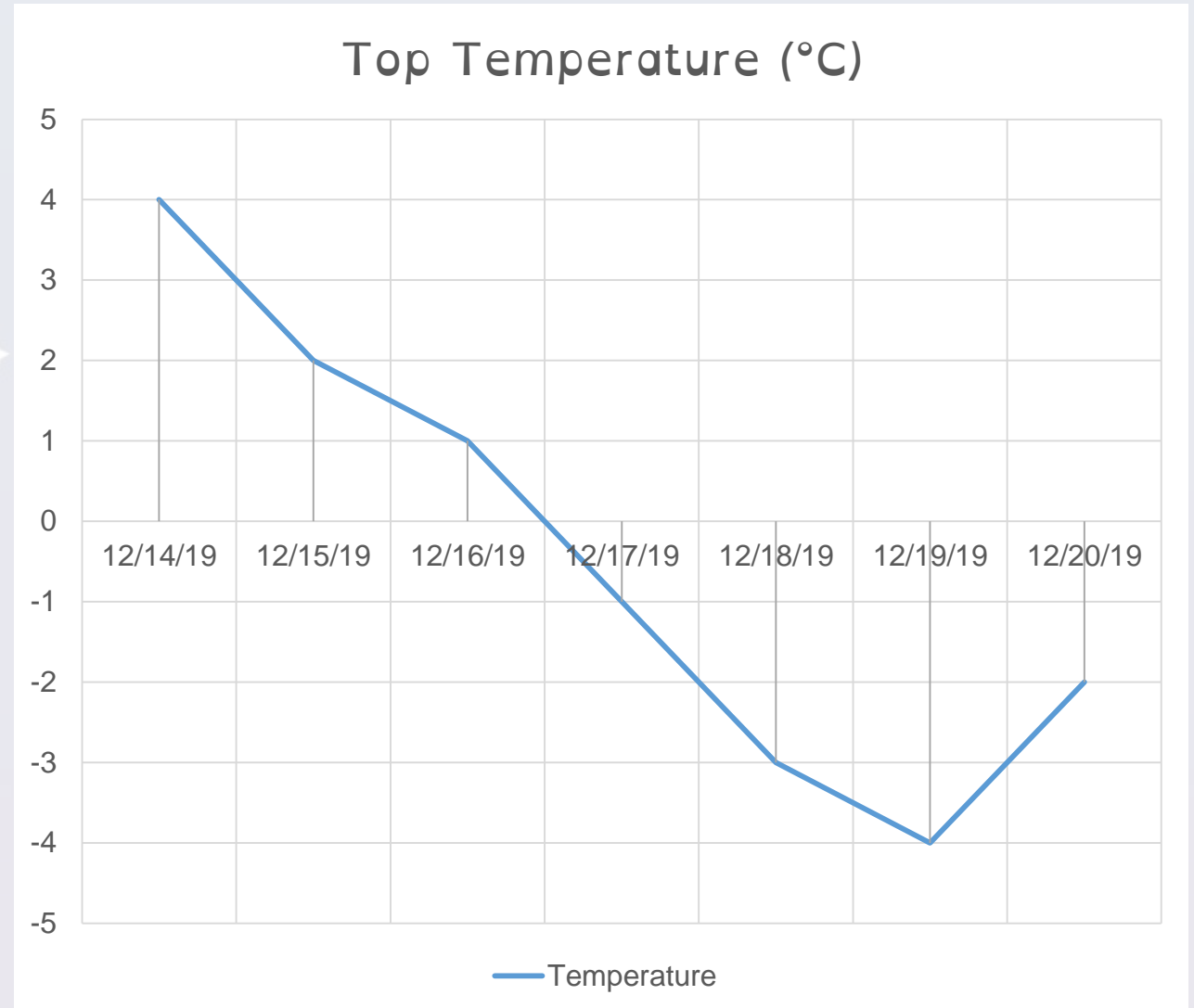
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To be able to use line graphs to solve problems

**Talking Time:**

Answer the following...

For how many days was the top temperature below  $0^{\circ}\text{C}$ ?





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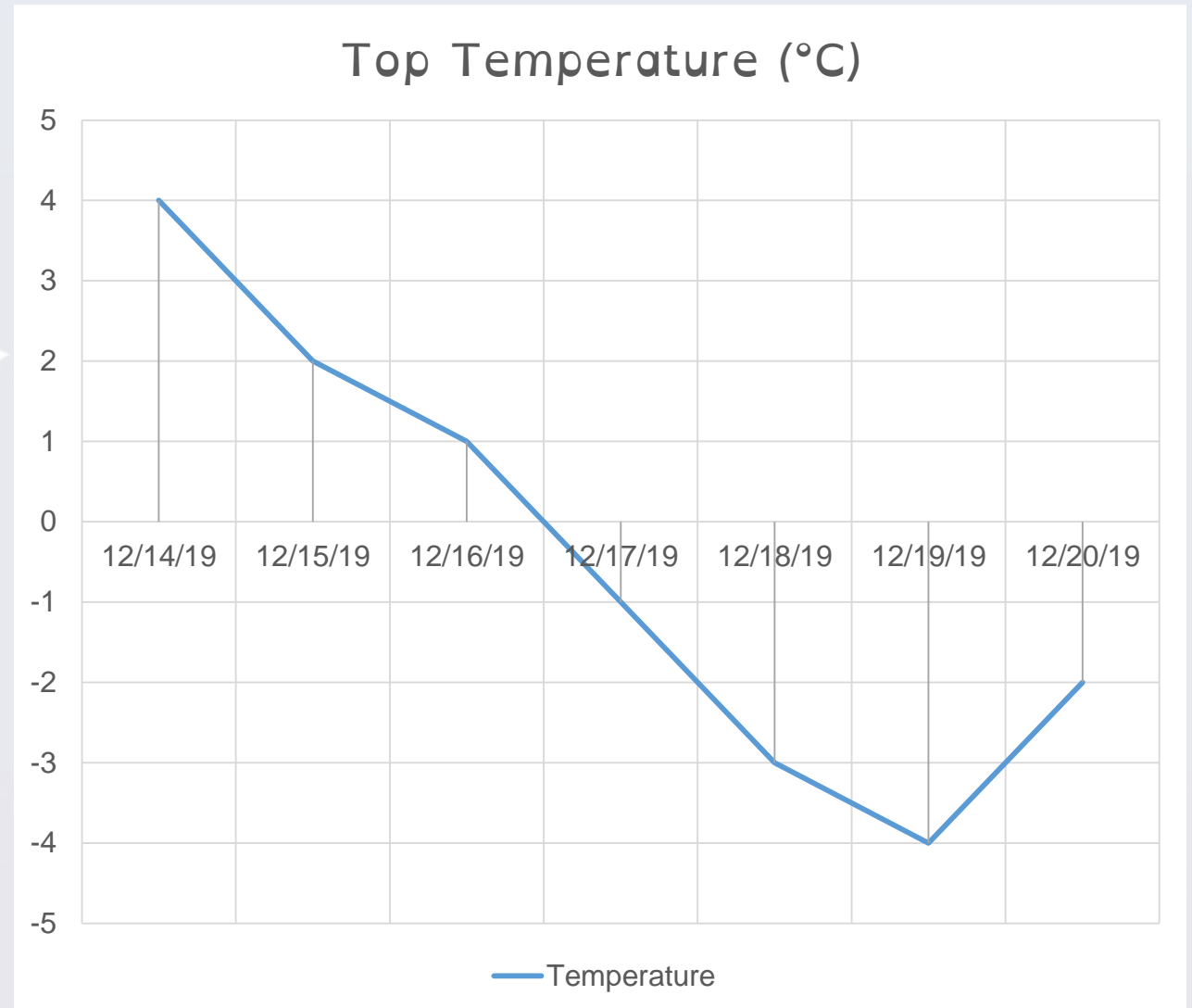
To be able to use line graphs to solve problems

## Talking Time:

Answer the following...

For how many days was the top temperature below  $0^{\circ}\text{C}$ ?

A top temperature below freezing was recorded on 4 days, the 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> December 2019.





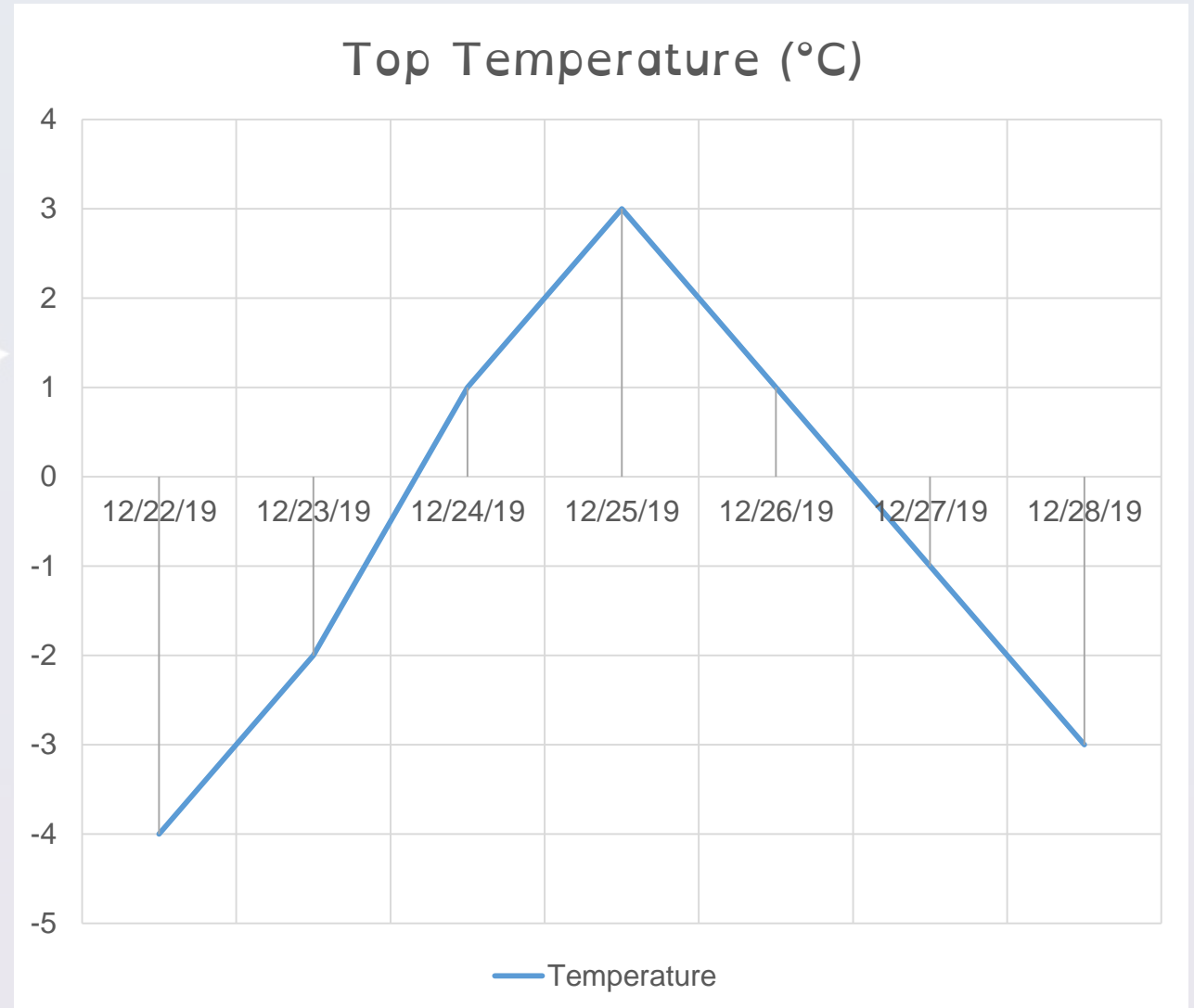
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To be able to use line graphs to solve problems

Talking Time:

Answer the following...

Which date had the highest temperature?





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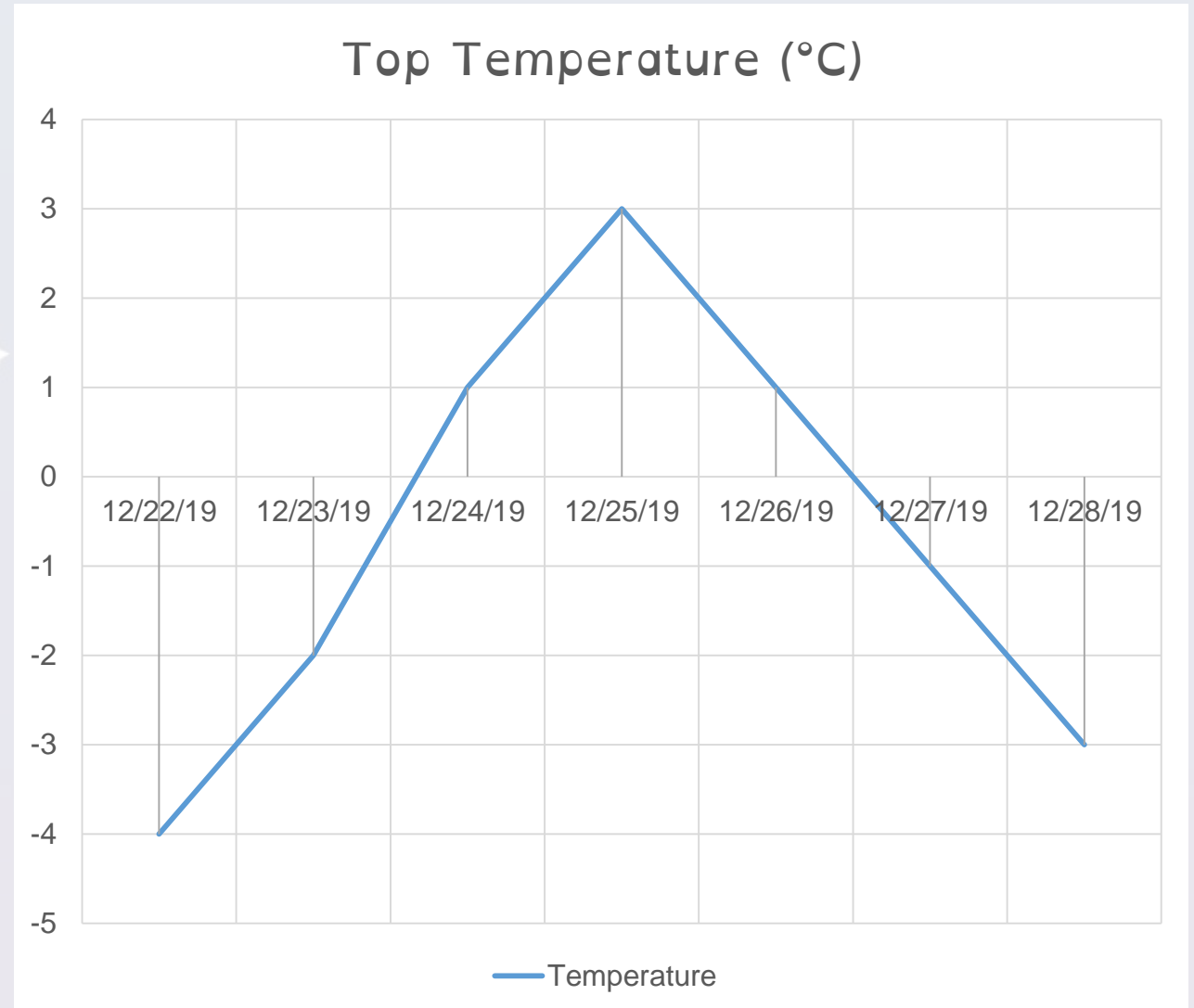
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Talking Time:

Answer the following...

Which date had the highest temperature?

The date with the highest temperature is 25/12/2019.





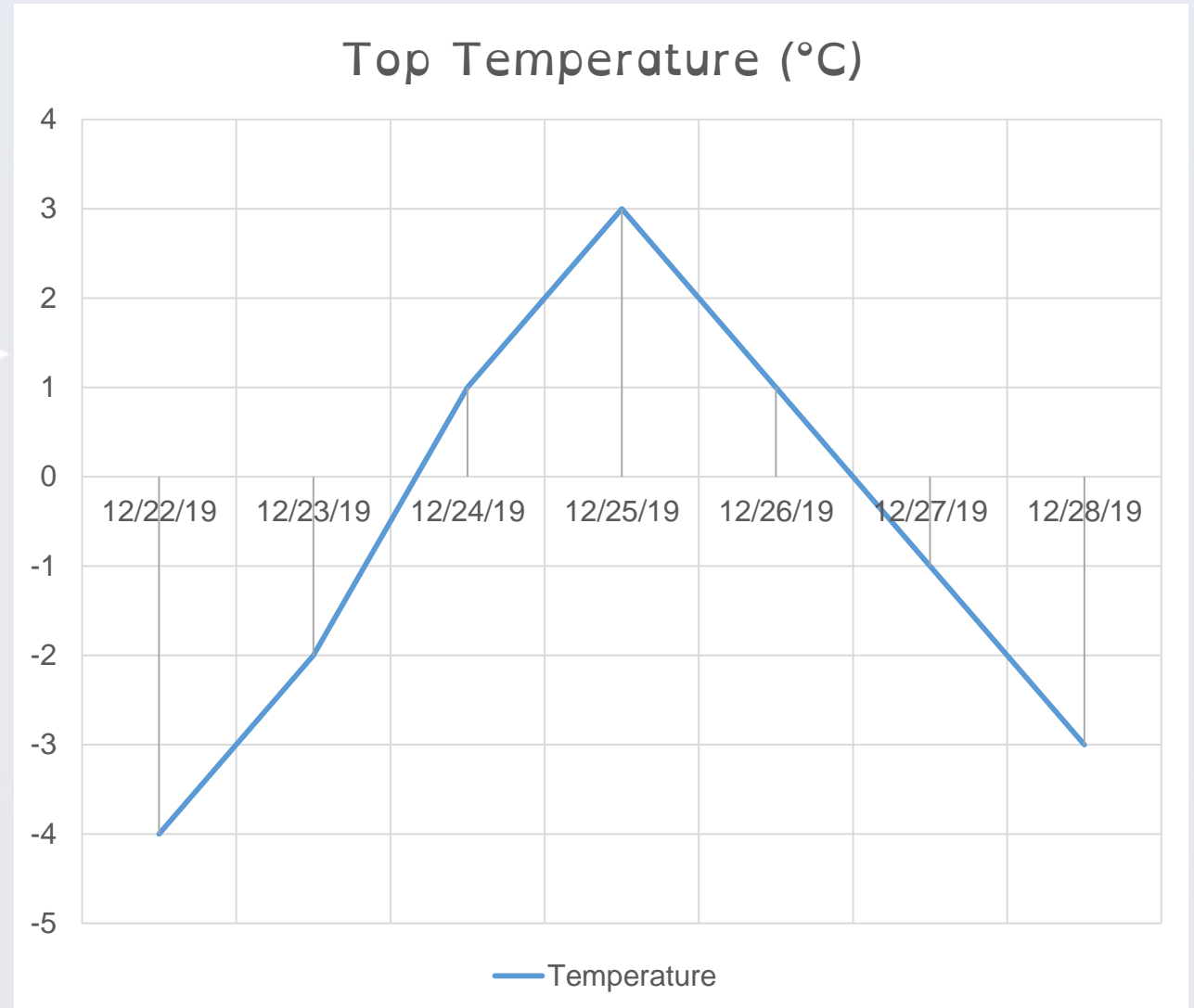
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To be able to use line graphs to solve problems

Talking Time:

Answer the following...

What is the difference between the hottest and coldest day?





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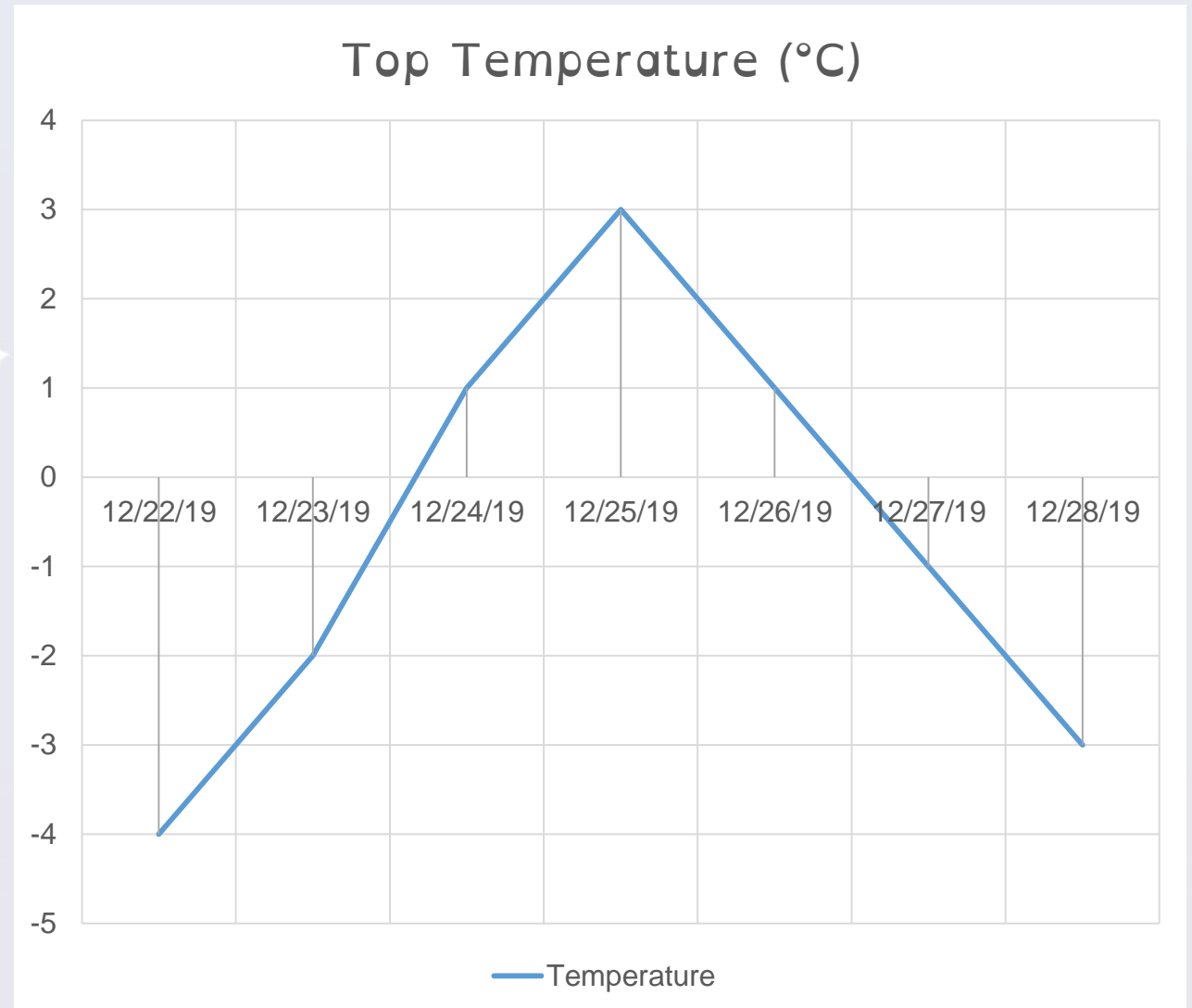
To be able to use line graphs to solve problems

## Talking Time:

Answer the following...

What is the difference between the hottest and coldest day?

The difference in temperature between the hottest ( $3^{\circ}\text{C}$ ) and coldest ( $-4^{\circ}\text{C}$ ) days is  $7^{\circ}\text{C}$ .





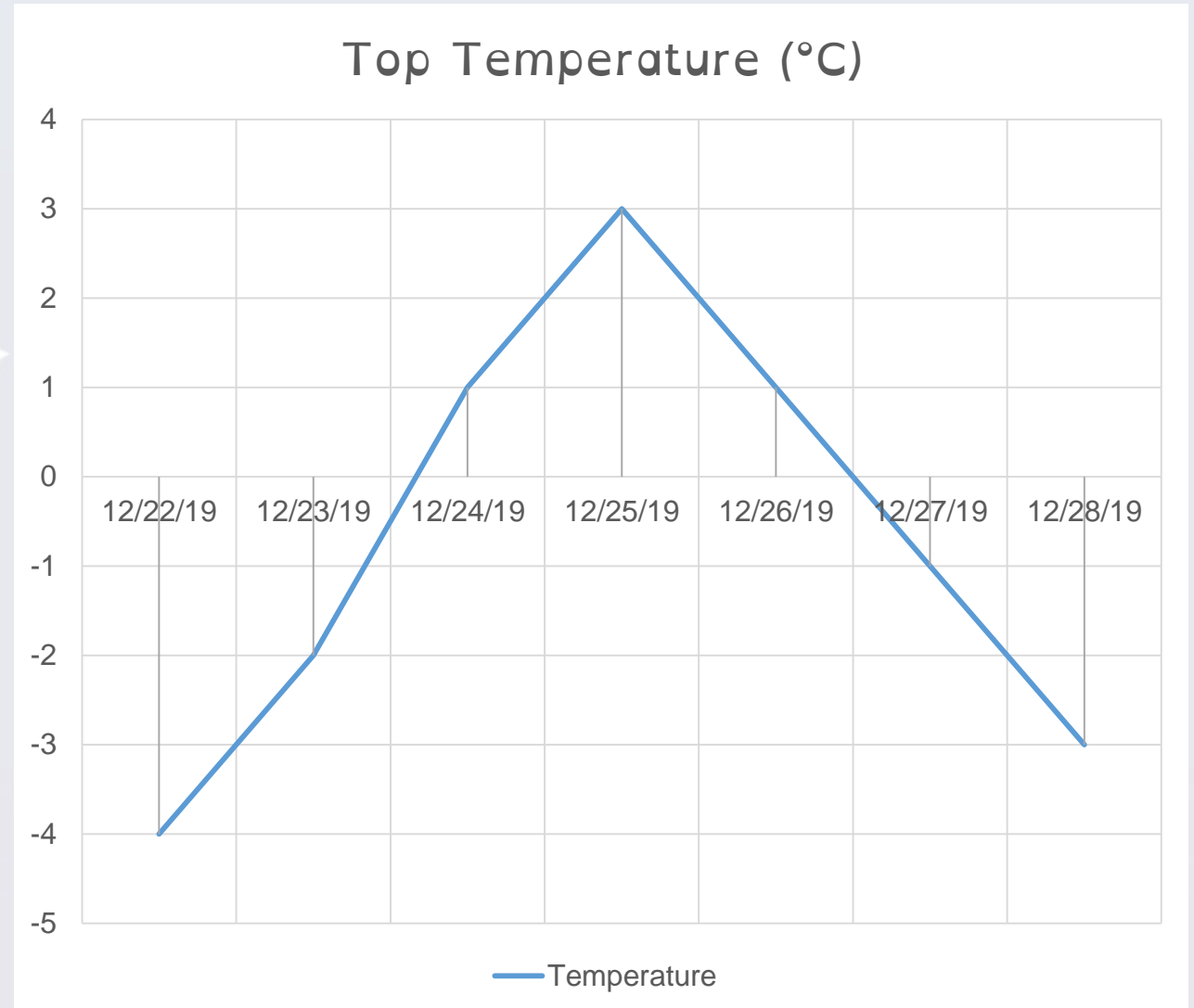
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To be able to use line graphs to solve problems

Talking Time:

Answer the following...

For how many days was the top temperature above  $0^{\circ}\text{C}$ ?





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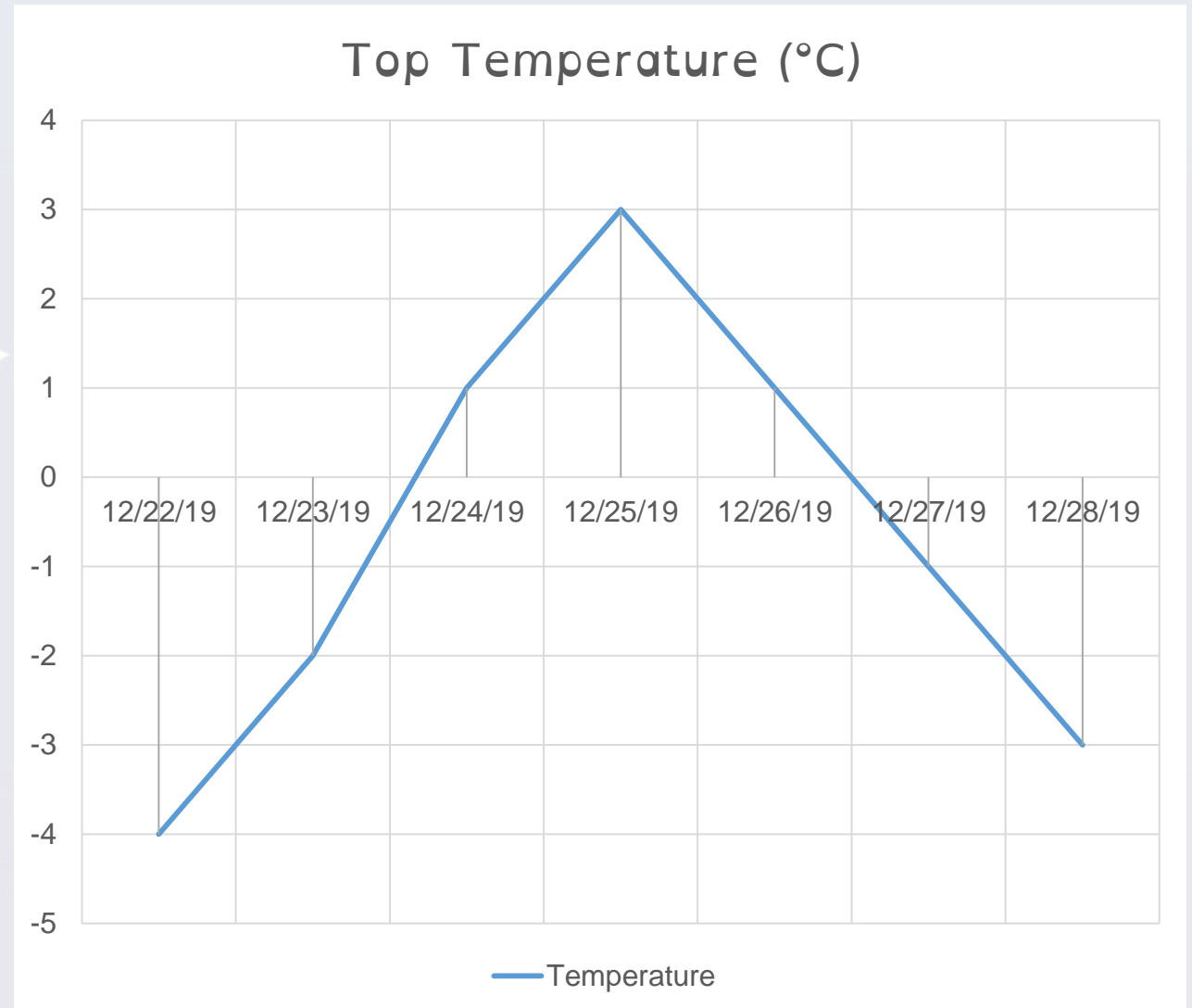
To be able to use line graphs to solve problems

## Talking Time:

Answer the following...

For how many days was the top temperature above  $0^{\circ}\text{C}$ ?

The top temperature was above freezing on three days, the 24<sup>th</sup>, 25<sup>th</sup> and 26<sup>th</sup> December 2019.







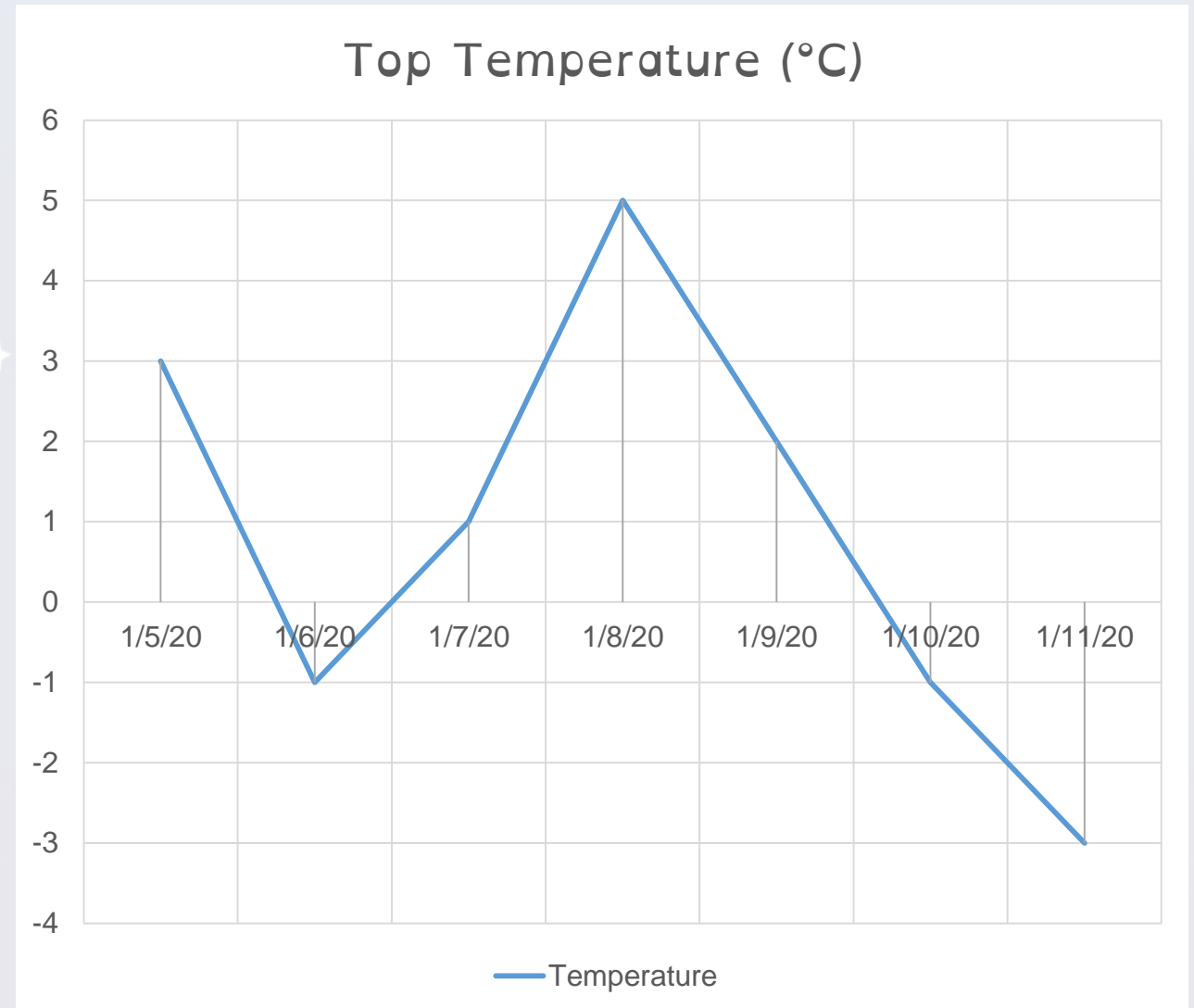
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To be able to use line graphs to solve problems

## Activity 1:

Answer the following questions.

- ★ a) Which date had the highest temperature?
- b) What is the difference between the hottest and coldest day?
- c) For how many days was the top temperature below  $0^{\circ}\text{C}$ ?





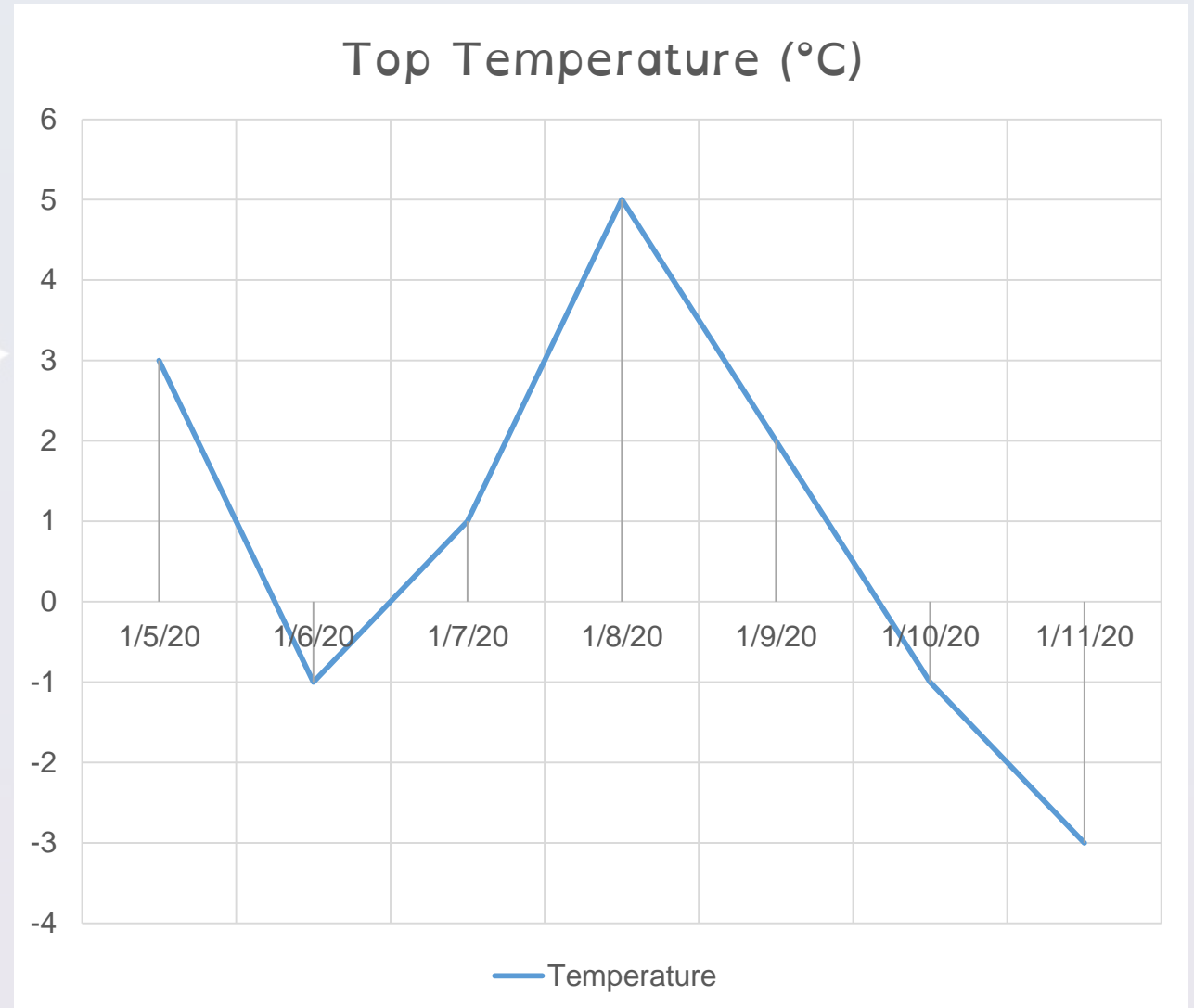
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To be able to use line graphs to solve problems

## Activity 1:

Answer the following questions.

- ★ a) 08/01/2020 had the highest temperature ( $5^{\circ}\text{C}$ )
- b) The difference between the hottest ( $5^{\circ}\text{C}$ ) and coldest ( $-3^{\circ}\text{C}$ ) day is  $8^{\circ}\text{C}$ .
- c) The top temperature was below  $0^{\circ}\text{C}$  on three days, 6<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> January 2020.





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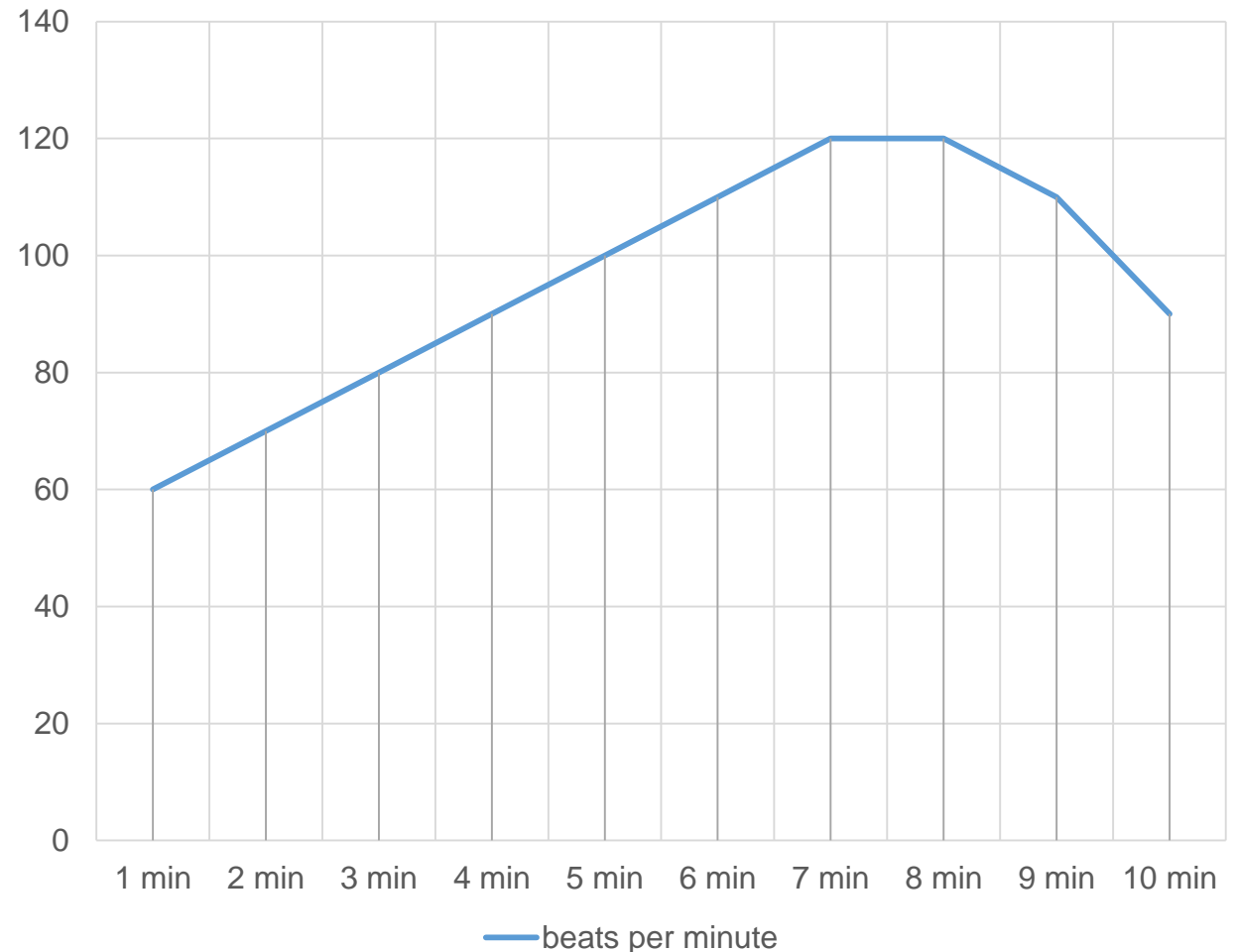
To be able to use line graphs to solve problems

## Activity 2:

Answer the following questions.

- ★ a) After how many minutes does the heart rate get to 90 beats per minute?
- b) What might have happened after 8 minutes?
- c) How long did it take for the heart rate to rise from 60 bpm to 80 bpm?

Heart Rate During Exercise





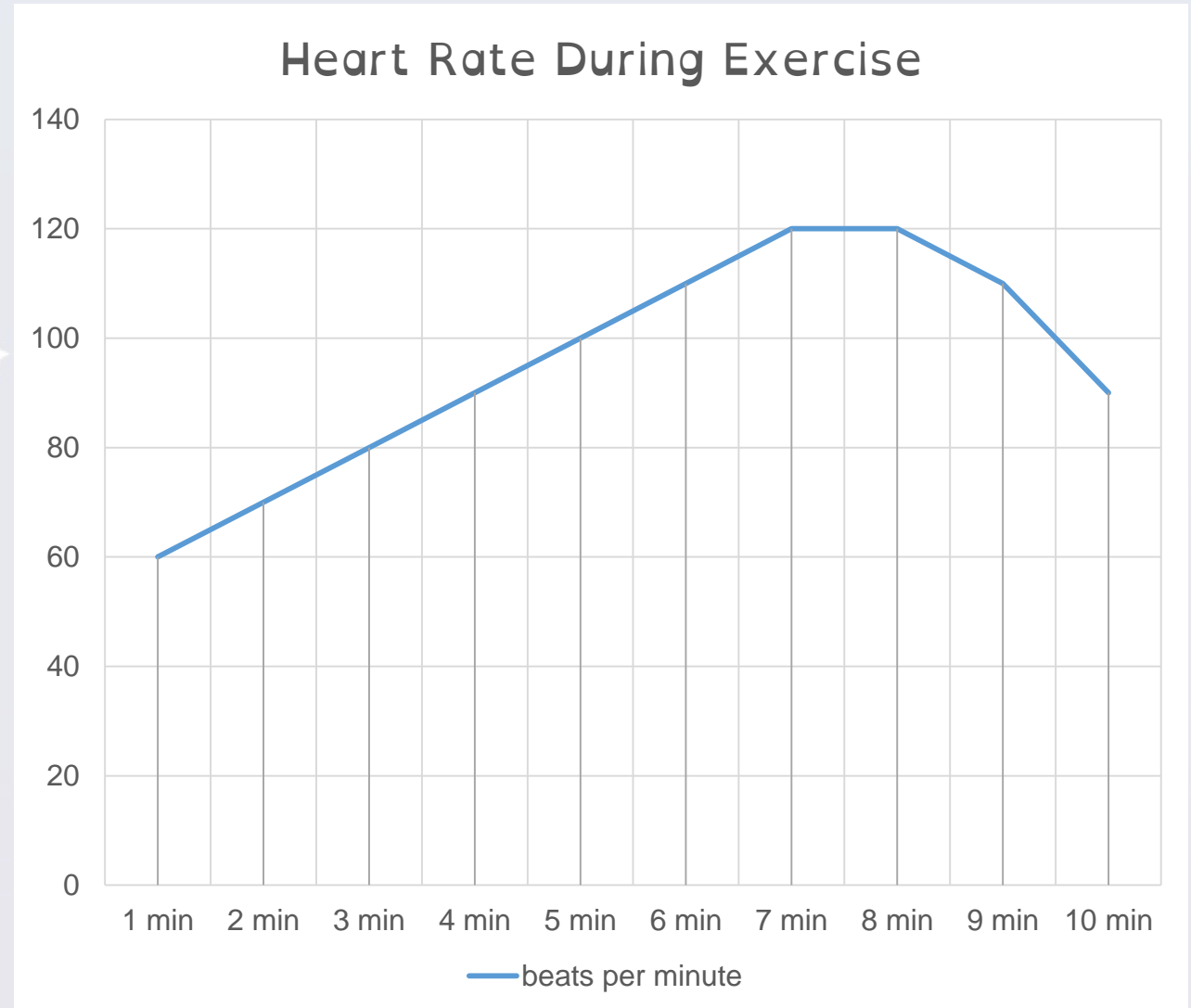
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To be able to use line graphs to solve problems

## Activity 2:

Answer the following questions.

- ★ a) The heart rate get to 90 beats per minute at 4 mins.
- b) The person either stopped or slowed down at 8 mins.
- c) The heart rate was at 60 bpm at 1 minute and at 80 bpm at 3 minutes, so it took 2 minutes for that 20 bpm rise.





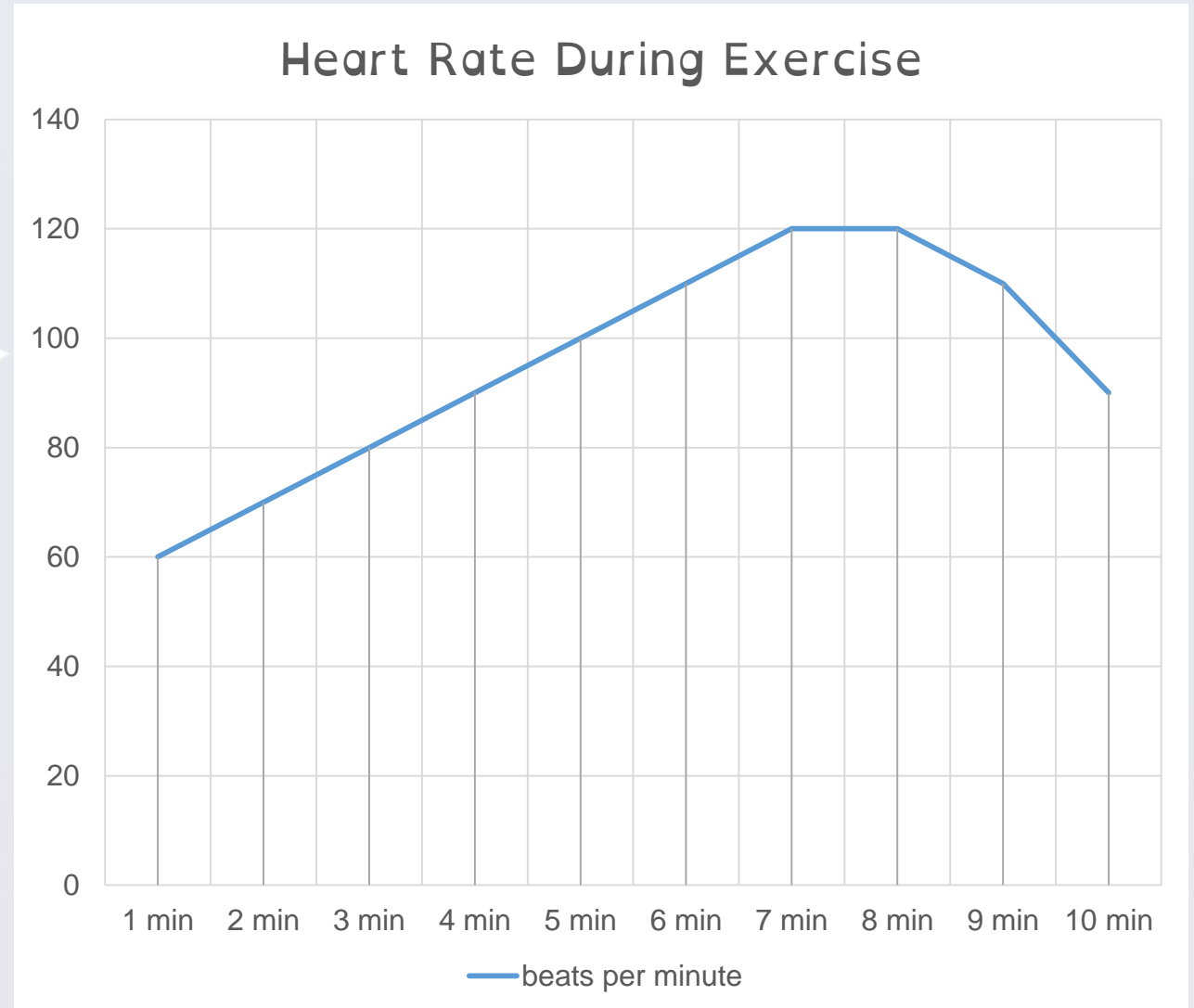
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To be able to use line graphs to solve problems

### Activity 3:

Conduct your own heart rate experiment and write questions of your own based on your line graphs like the questions below:

- a) After how many minutes does the heart rate get to 90 beats per minute?
- b) What might have happened after 8 minutes?
- c) How long did it take for the heart rate to rise from 60 bpm to 80 bpm?





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To be able to use line graphs to solve problems

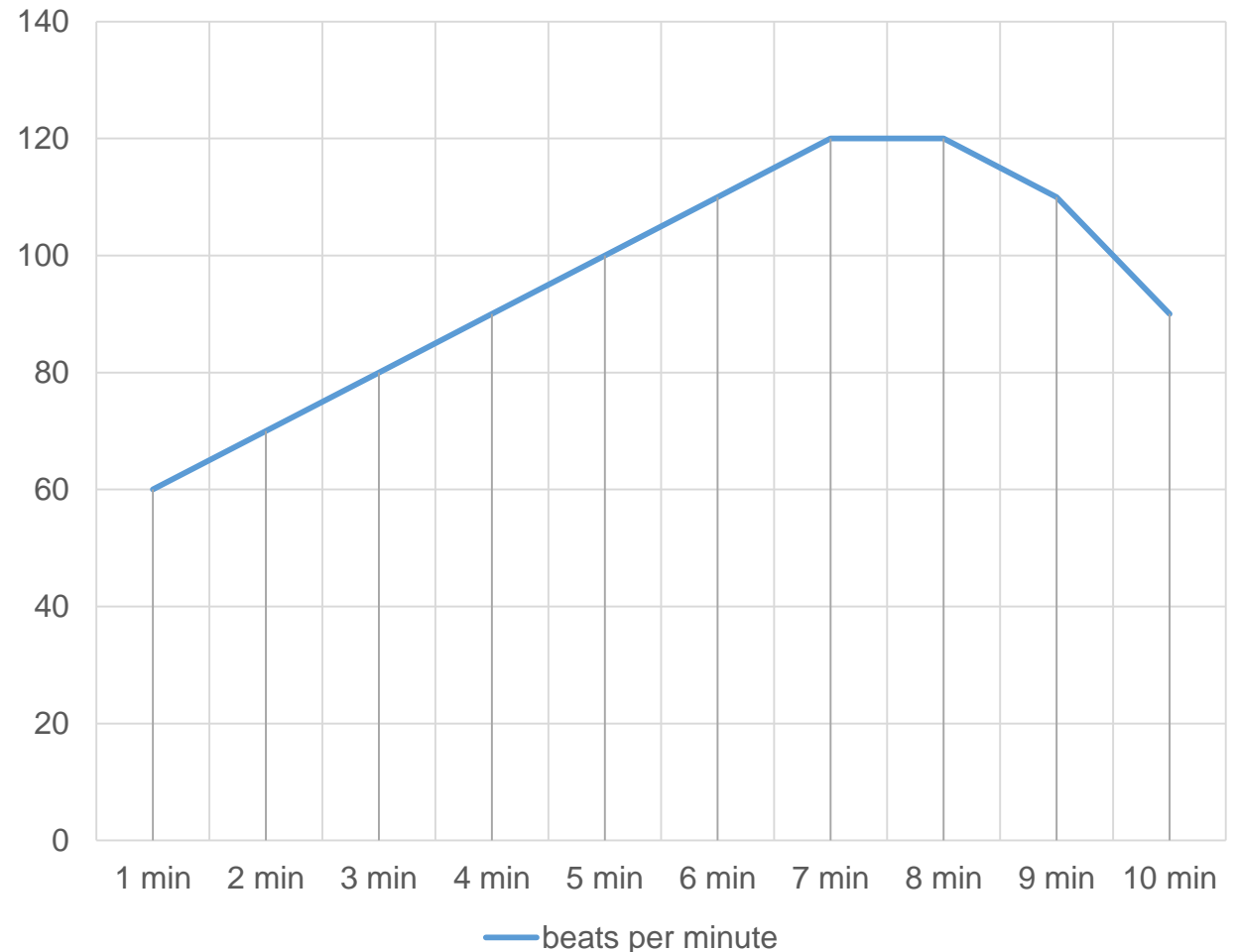
### Activity 3:

Conduct your own heart rate experiment and write questions of your own based on your line graphs like the questions below:

- a) After how many minutes does the heart rate get to 90 beats per minute?
- b) What might have happened after 8 minutes?

Adult / peer assessment

Heart Rate During Exercise





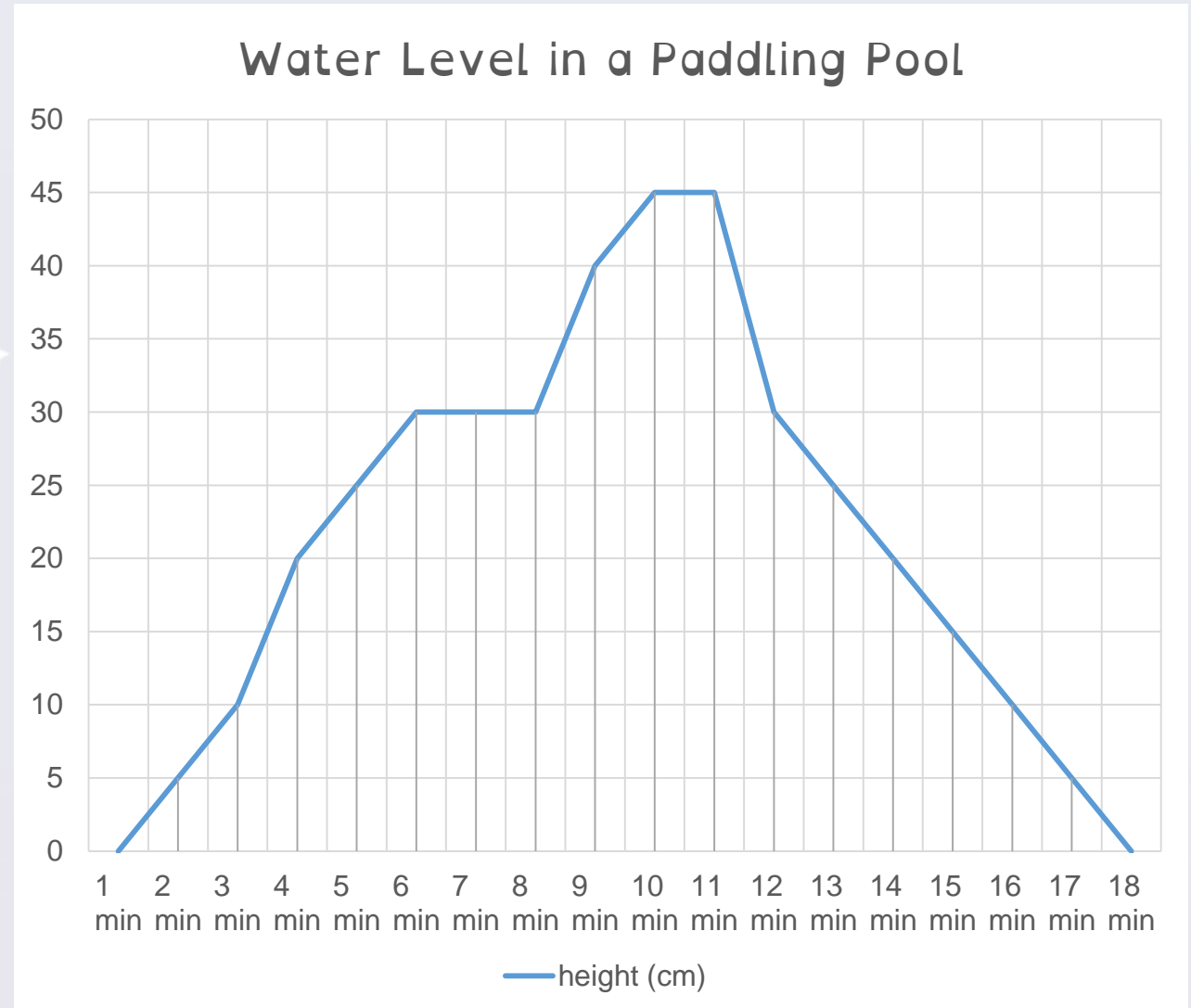
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To be able to use line graphs to solve problems

## Activity 4:

The line graph on the right shows the height of water in a paddling pool. Answer...

- a) What is happening between minutes 1 and 6?
- b) Why might the water level stay the same between minutes 6 and 8?
- c) Why might it rise again between minutes 8 and 10?
- d) What do you think is happening after minute 12?





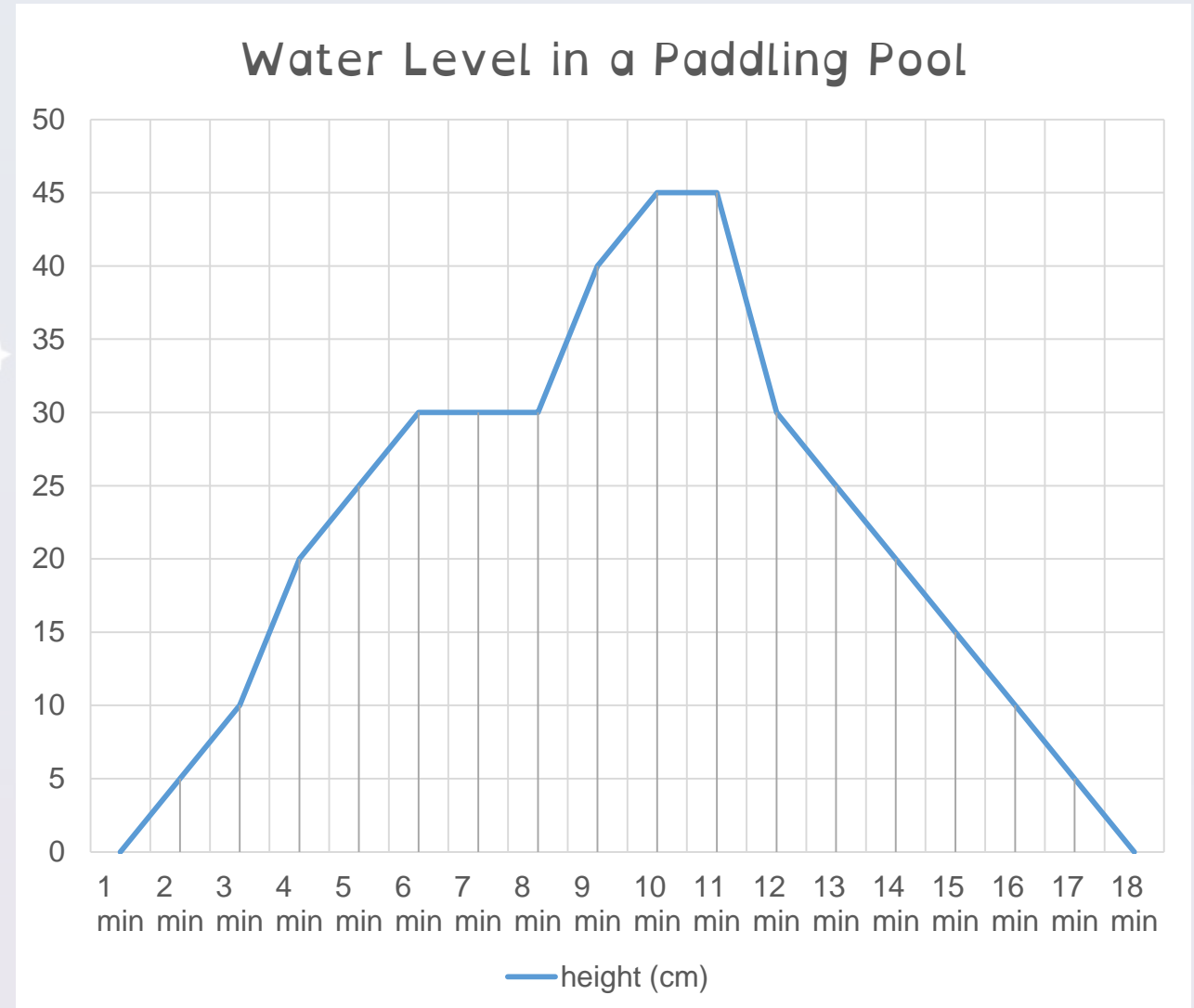
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## Activity 4:

The line graph on the right shows the height of water in a paddling pool. Answer...

- a) The pool is filled with water between minutes 1 and 6.
- b) The water must have been stopped running between minutes 6 and 8.
- c) Either the tap is turned on again or people jump in between minutes 8 and 10.
- d) It is emptied after minute 12.

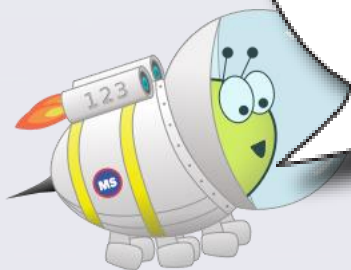




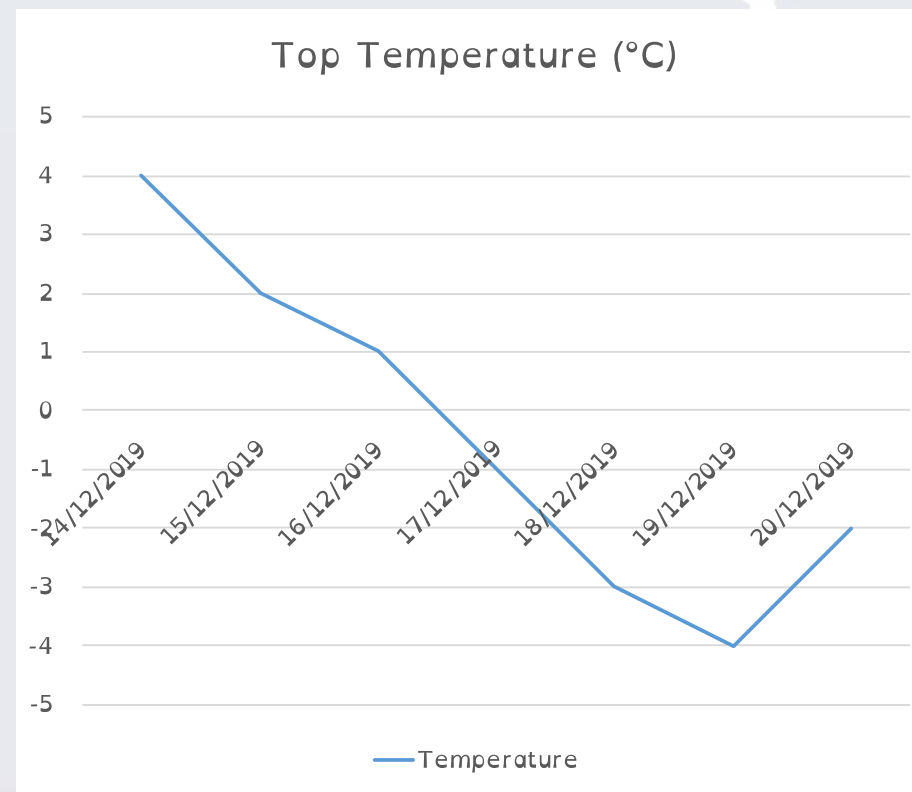
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Evaluation:

The temperature  
rises between the  
15<sup>th</sup> and 18<sup>th</sup> of  
December 2019.



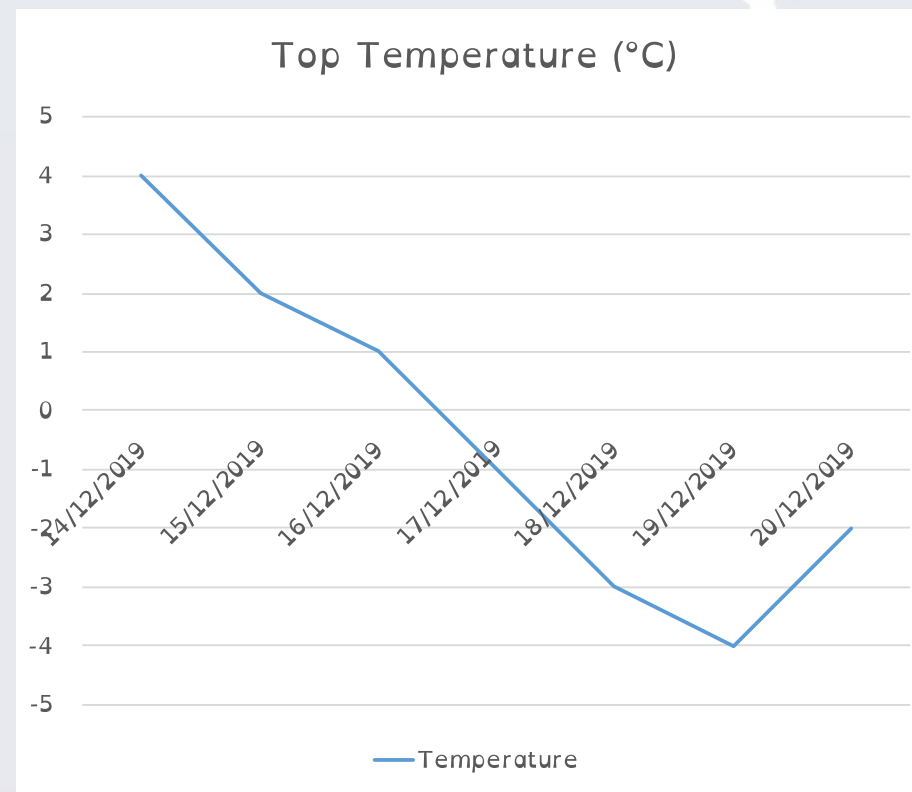
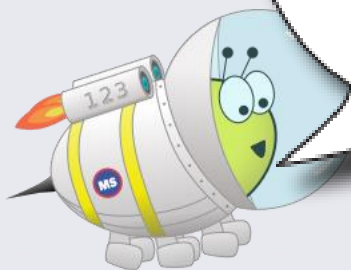
Is Astrobee's statement true or false?  
Explain your answer.



To be able to use line graphs to solve problems

Evaluation:

The temperature  
rises between the  
15<sup>th</sup> and 18<sup>th</sup> of  
December 2019.



Astrobees statement is false – the top temperature decreases from 4°C to -2°C between the 15<sup>th</sup> and 18<sup>th</sup> December 2019.



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## Success criteria:

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- ✓ I can explain my reasoning when using my knowledge of number lines to read values on horizontal and vertical lines, drawing vertical and horizontal lines to give accurate readings