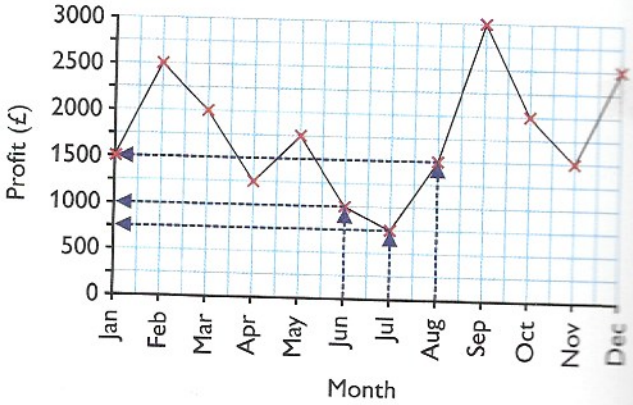
Line Graphs — 1

Line graphs can show how something changes over time.
You need to be able to solve sum, difference and comparison problems using line graphs.

Example

This line graph shows how much profit a shop made in each month of a year.

How much profit did the shop make in total in June, July and August?



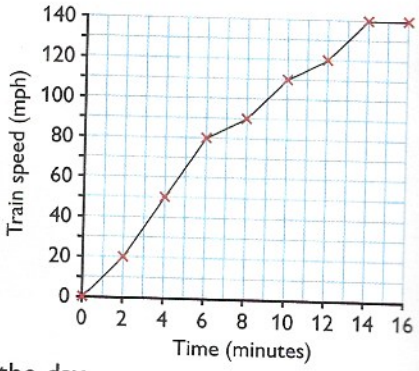
Read up from each month to the correct point, then read across to find the profit.

The shop made £1000 profit in June, £750 in July and £1500 in August.

So the shop made £1000 + £750 + £1500 = **£3250 profit** in total in June, July and August.

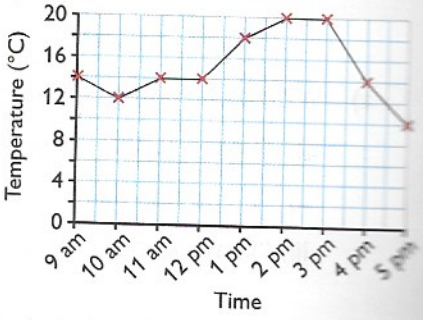
Set A

A train driver measures the speed of his train every 2 minutes. The line graph on the right shows his results.



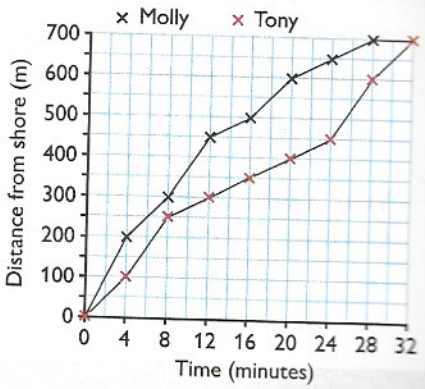
1. How fast was the train going after 6 minutes?
2. True or false? It took the train 12 minutes to reach 140 mph.
3. What is the difference between the train's speed after 4 minutes and 8 minutes?

Kyle records the temperature outside his office over the course of the day. He shows the data in a line graph on the right.



4. At what time was a temperature over 16 °C first recorded?
5. What was the difference in temperature between 10 am and 3 pm?
6. True or false? It was warmer at 4 pm than at 10 am.
7. It was 8 °C warmer inside Kyle's office than outside at 5 pm. What was the temperature inside Kyle's office at 5pm?

The line graph on the right shows how long it took Molly and Tony to swim away from the shore.

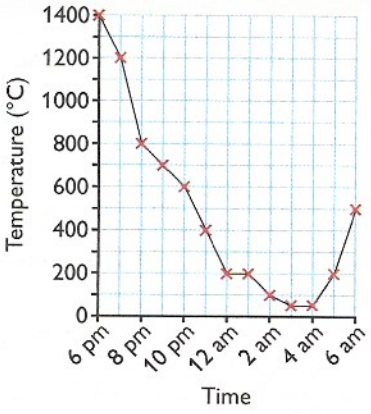


What number is missing from each sentence?

8. Molly had swum ☐ m after 4 minutes.
9. It took Tony ☐ minutes to swim 600 m.
10. How far did Tony swim between 4 and 8 minutes?
11. What is the total distance that Molly and Tony had swum after 12 minutes?

Set B

The line graph on the right shows the temperature of a furnace between 6 pm and 6 am.

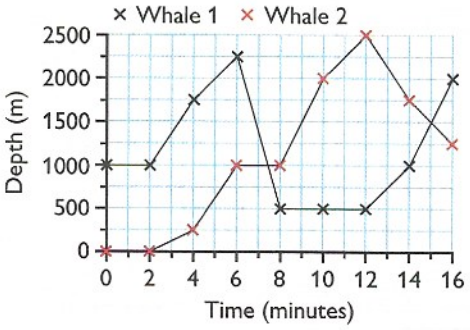


1. Was the furnace hotter at 11 pm or 6 am?
2. The maximum temperature of the furnace is 1400 °C. How long did it take the temperature to fall to half this temperature?

Are the following statements true or false?

3. The temperature was the same at 5 am as it was at 1 am.
4. It took 5 hours for the temperature to drop from 800 °C to 200 °C.
5. The temperature of the furnace had dropped by 1200 °C, from 6 pm to midnight.

Two whales have radio tags that measure how deep they dive. The line graph on the right shows how deep each whale dived over 16 minutes.

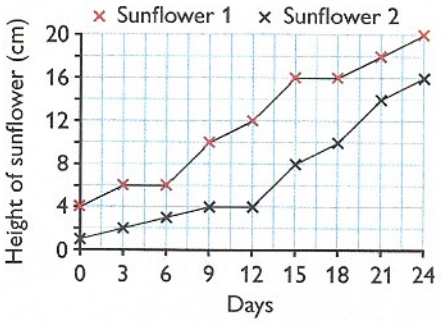


6. What is the difference between whale 1's depth after 12 and 16 minutes?
7. How much deeper was whale 2 than whale 1 after 14 minutes?
8. What was the total depth of the two whales at 6 minutes?

Set C

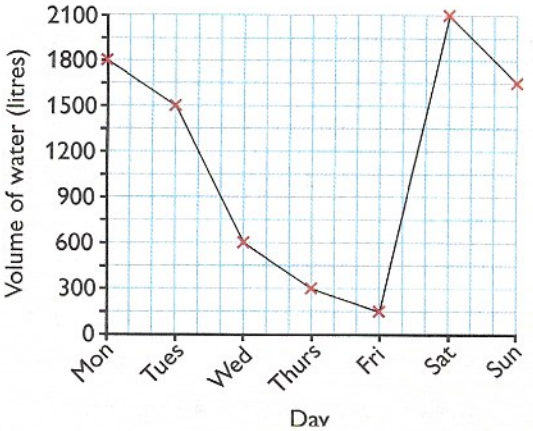
A gardener measured the height of two sunflowers every three days.

The line graph on the right shows his results.



1. How tall was sunflower 1 on day 9?
2. True or false? Sunflower 2 grew 6 cm between day 15 and day 21.
3. Which sunflower grew the most between day 9 and day 24?
4. What is the total height of the sunflowers on day 18?

The line graph on the right shows the volume of water in a water tank during the course of a week.



5. How much water was used between Tuesday and Thursday?
6. On what day was the volume of water in the tank exactly one third of the amount on Monday?
7. How much water was added to the tank between Friday and Saturday?
8. What was the total volume of water taken out of the tank during the week?

I can solve problems involving line graphs.