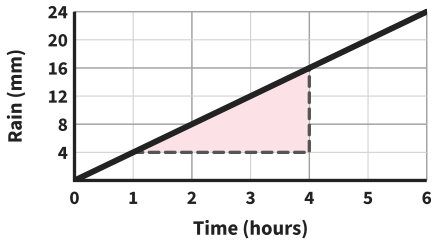
Rates from graphs

ANSWERS

1

Rain collects in a rain gauge. Find the rate the rain fills it.



change up = 12 mm

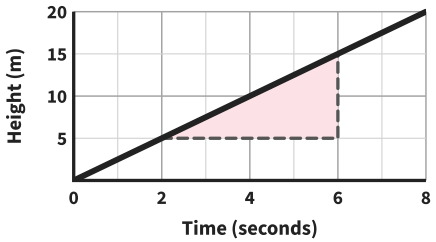
change across = 3 hours

rate = 12 ÷ 3

Rate = 4 mm per hour

2

A lift rises from the ground floor. Find the rate it rises.



change up = 10 m

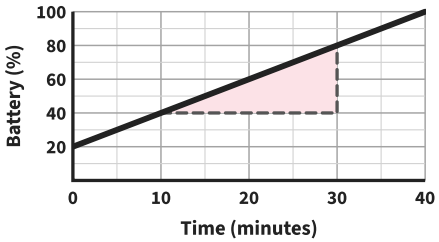
change across = 4 seconds

rate = 10 ÷ 4

Rate = 2.5 m per second

3

A phone is charging. Find the rate the battery charges.



change up = 40%

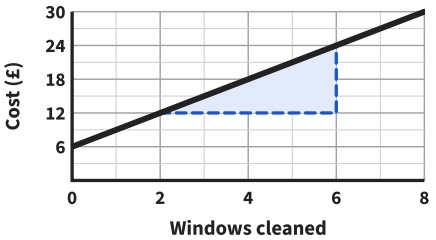
change across = 20 minutes

rate = 40 ÷ 20

Rate = 2% per minute

4

A window cleaner charges a fixed fee, then the same for each window. Draw a step triangle. Find the cost per window.



change up = £12

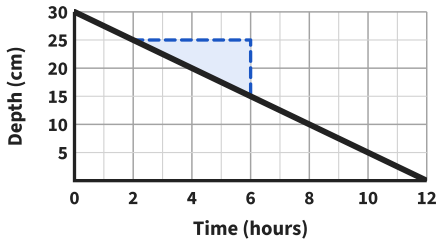
change across = 4 windows

rate = 12 ÷ 4

Rate = £3 per window

5 *Notice the change!*

Snow melts in the sun. Find the rate the depth goes down.



change down = 10 cm

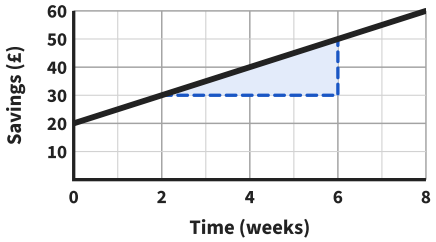
change across = 4 hours

rate = 10 ÷ 4

Rate = 2.5 cm per hour

6

Zoe saves the same amount each week. What does the 20 on the graph tell you? Find the rate she saves.



the line starts at 20

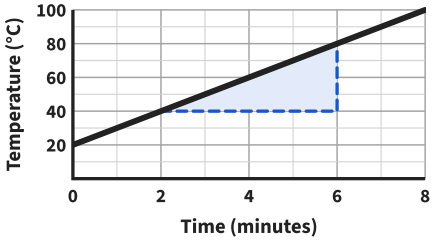
rate = 20 ÷ 4

20 means £20 saved at the start

Rate = £5 per week

7

A pan of water heats up. Theo reads 60°C at 4 minutes and says the rate is 60 ÷ 4 = 15°C per minute. Explain his mistake.



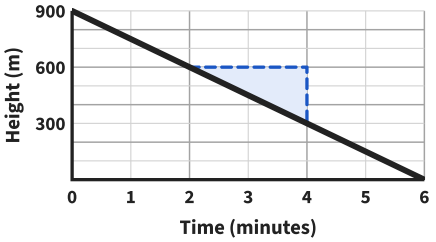
the line starts at 20°C, not 0

rate = 40 ÷ 4

Rate = 10°C per minute

8

A paraglider comes down to land. What height does she start at? Find the rate she comes down.



change down = 300 m

rate = 300 ÷ 2

Start (m) = 900

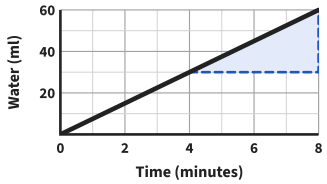
Rate = 150 m per minute

Rates from graphs *further practice*

ANSWERS

9

A leaking tap drips into a jug.
Find the rate the jug fills.

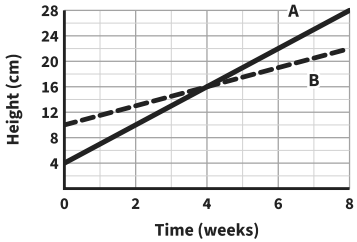


30 ÷ 4

Answer 7.5 ml per minute

10

Plant A and plant B grow at steady rates. Which plant grows faster, and by how many cm per week?



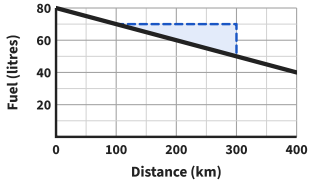
A: 12 ÷ 4 = 3

B: 6 ÷ 4 = 1.5

Answer A, by 1.5 cm per week

11

A lorry uses fuel as it drives.
Find the rate it uses fuel, in litres per km.



20 ÷ 200

Answer 0.1 litres per km

12

A tree is 2.4 m tall in 2020 and 3.6 m tall in 2024. It grows at a steady rate.
Find the rate it grows.

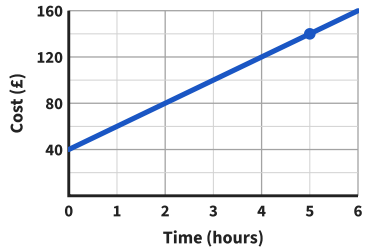
change up 1.2 m, change across 4 years

1.2 ÷ 4

Answer 0.3 m per year

13

A DJ charges £40 to set up, then £20 per hour. Draw the graph. How much does the DJ charge for 5 hours?



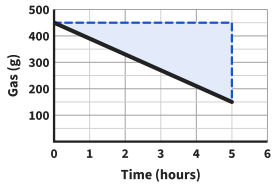
starts at 40, up 20 each hour

40 + 5 × 20 = 140

Answer £140

14

A camping stove uses gas at a steady rate. Find the rate.
How many hours after the start will the gas run out?



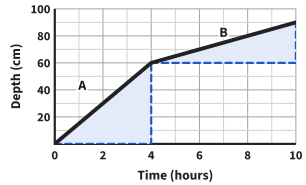
300 ÷ 5 = 60 g per hour

450 ÷ 60 = 7.5

Answer 60 g per hour, 7.5 hours

15

A pond is filled with a hose, part A, then a smaller hose, part B.
Find the rate in each part.
How many times faster is part A?



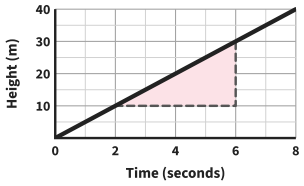
A: 60 ÷ 4 = 15 cm per hour

B: 30 ÷ 6 = 5 cm per hour

Answer 3 times

16

A balloon rises. Leah says the rate is 4 ÷ 20 = 0.2 m per second.
Explain her mistake. Find the rate.



she did across ÷ up

change up ÷ change across = 20 ÷ 4

Answer 5 m per second