

- 1** On Saturday, Jacob walked 10 800 steps.
On Sunday, he walked 7% more steps than on Saturday.

Work out how many steps Jacob walked on Sunday.

(Total for Question 1 is 3 marks)

- 2** Victor buys 12 bottles of apple juice for a total cost of \$21
Victor sells all 12 bottles at \$2.45 each bottle.

Work out Victor's percentage profit.

..... %

(Total for Question 2 is 3 marks)

- 3** In a sale, the normal price of a hat is reduced by 15%
The sale price of the hat is 20.40 euros.

Work out the normal price of the hat.

..... euros

(Total for Question 3 is 3 marks)

- 4** In 2018, the population of Sydney was 5.48 million.
This was 22% of the total population of Australia.

Work out the total population of Australia in 2018
Give your answer correct to 3 significant figures.

..... million

(Total for Question 4 is 3 marks)

- 5** On Wednesday, the price of 1 litre of petrol was £1.26
The price of petrol on Wednesday was 5% more than the price of petrol on the previous Monday.

Calculate the price of 30 litres of petrol on the previous Monday.

£.....

(Total for Question 5 is 3 marks)

- 6** A cinema increased the cost of an adult ticket by 12%
After the increase, the cost of an adult ticket was £18.20
Work out the cost of an adult ticket before the increase.

£.....

(Total for Question 6 is 3 marks)

7 In a sale, normal prices are reduced by 20%

A bag costs 1080 rupees in the sale.

Work out the normal price of the bag.

..... rupees

(Total for Question 7 is 3 marks)

- 8 The table shows the cost, in euros, of Brigitte's car insurance in each of the years 2016, 2017 and 2018

Year	2016	2017	2018
Cost of insurance (euros)	500	545	592

Brigitte says,

“The percentage increase in the cost of my car insurance from 2017 to 2018 is more than the percentage increase in the cost of my car insurance from 2016 to 2017”

- (a) Is Brigitte correct?

You must show how you get your answer.

(4)

Henri wants to insure his car.

He gets a discount of 15% off the normal price.

Henri pays 952 euros for his car insurance after the discount.

- (b) Work out the discount that Henri gets.

..... euros

(3)

(Total for Question 8 is 7 marks)

- 9 The table gives information about the average house price in England in 2018 and in 2019

Year	2017	2018	2019
Average house price (£)		228 314	231 776

- (a) Work out the percentage increase in the average house price from 2018 to 2019
Give your answer correct to one decimal place.

..... %
(2)

The average house price in 2019 was 7.7% greater than the average house price in 2017

- (b) Work out the average house price in 2017
Give your answer correct to 3 significant figures.

£
(3)

(Total for Question 9 is 5 marks)

10 Josh buys and sells books for a living.

He buys 120 books for £4 each.

He sells $\frac{1}{2}$ of the books for £5 each.

He sells 40% of the books for £7 each.

He sells the rest of the books for £8 each.

(a) Calculate Josh's percentage profit.

.....%

(5)

One book that Josh owns had a value of £15 on the 1st May 2019

The value of this book had increased by 20% in the last year.

(b) Find the value of the book on the 1st May 2018

£.....

(3)

(Total for Question 10 is 8 marks)

11 Gladys buys a table for \$465 to sell in her shop.

She sells the table for \$520

- (a) Work out the percentage profit that Gladys makes from the sale of the table.
Give your answer correct to 3 significant figures.

.....%
(3)

Gladys has a sale in her shop.

She decreases all the normal prices by 12%
The normal price of an armchair was \$550

- (b) Work out the sale price of the armchair.

\$.....
(3)

(Total for Question 11 is 6 marks)

12 Sarah makes and sells mugs.

One day she makes 150 mugs.
Her total cost for making these mugs is £1140

Of these mugs
 $\frac{2}{5}$ are small mugs
 32% are medium mugs
and the rest are large mugs

Here is Sarah’s price list for selling each mug.

MUGS	
Small	£8.50
Medium	£11.20
Large	£14.20

Sarah sells all 150 mugs.
Work out her percentage profit.
Give your answer correct to the nearest whole number.

.....%

(Total for Question 12 is 5 marks)

- 13** Gopal is paid 20 000 rupees each month.
Jamuna is paid 19 200 rupees each month.

Gopal and Jamuna are both given an increase in their monthly pay.
After the increase, they are both paid the same amount each month.

Gopal was given an increase of 8%

Work out the percentage increase that Jamuna was given.

.....%

(Total for Question 13 is 4 marks)

14 The language department of a college has 180 students.
Each student studies exactly one of French, German, Italian or Spanish.

15 students study French.

45% of the students study German.

Express the percentage of students studying Italian or Spanish as a percentage of those studying French or German.

.....%

(Total for Question 14 is 4 marks)

15 The table gives information about the price of gold.

	1st February 2016	1st March 2016
Price of one ounce of gold (dollars)	1126.50	1236.50

- (a) Work out the percentage increase in the price of gold between 1st February 2016 and 1st March 2016
Give your answer correct to 3 significant figures.

%

(3)

The price of one ounce of gold on 1st February 2016 was 1126.50 dollars.
The price of gold increased by 19% from 1st February 2016 to 1st July 2016

- (b) Work out the price of one ounce of gold on 1st July 2016
Give your answer correct to the nearest dollar.

dollars

(3)

(Total for Question 15 is 6 marks)

16 Behnaz makes candles.

She has 6.3 kilograms of wax and uses it all to make candles.

Each candle Behnaz makes uses 210 grams of wax.

Behnaz sells $\frac{2}{5}$ of the candles for \$13 each.

She then reduces this price by 20% and sells the rest of the candles.

Work out the total amount of money Behnaz gets by selling all the candles she made.

\$.....

(Total for Question 16 is 4 marks)

17 Asha bought an apartment.

The table gives information about the value of apartments, in euros, and the annual service charge band.

Value (x euros)	Service charge band
$x \geq 700\,000$	A
$600\,000 \leq x < 700\,000$	B
$500\,000 \leq x < 600\,000$	C
$400\,000 \leq x < 500\,000$	D
$0 < x < 400\,000$	E

In 2021, the value of Asha’s apartment was 634 400 euros.

The value of Asha’s apartment had increased by 4% from its value in 2020

- (a) Has the annual service charge band changed for Asha’s apartment?
Show your working clearly.

(3)

Pam bought a boat.

In each year after Pam bought the boat, the value of the boat depreciated by 15%

- (b) Work out the total percentage by which the value of the boat had depreciated by the end of the second year after Pam bought the boat.

..... %
(3)

(Total for Question 17 is 6 marks)

18 Mary saves for a holiday each year.

In 2020 she saved a total of \$720

In 2021, each month she saved \$78

The total amount Mary saved in 2021 was $P\%$ more than the total she saved in 2020

(a) Work out the value of P

Roberto is going to go on holiday.

He has two coupons that will save him money on his holiday.

Coupon A

18% off the cost of the
accommodation

Coupon B

12.5% off the total cost of the
accommodation **and** the flights

For Roberto's holiday

the cost of the accommodation is \$1600

the cost of the flights is \$800

Roberto can only use one of the coupons.

He wants to save as much money as he can.

(b) Which of the two coupons, **A** or **B**, should he use?

Show your working clearly.

(3)

(Total for Question 18 is 7 marks)

19 Lorenzo increases all the prices on his restaurant menu by 8%

Before the increase, the price of a dessert was \$4.25

(a) Work out the price of the dessert after the increase.

\$
(3)

After the increase, the price of lasagne is \$9.45

(b) Work out the price of lasagne before the increase.

\$
(3)

(Total for Question 19 is 6 marks)

20 In 2017, the population of a village was 7500
In 2019, the population of the village was 8265

(a) Work out the percentage increase in the population of the village from 2017 to 2019

..... %
(3)

In a sale, normal prices are reduced by 30%
The sale price of a T-shirt was 31.50 euros.

(b) Work out the normal price of the T-shirt.

..... euros
(3)

(Total for Question 20 is 6 marks)

21 A company makes cars.

In 2016, the company made 350 cars.

In the first 6 months of 2017, the company made 25 cars each month.

In the last 6 months of 2017, the company made 45 cars each month.

- (a) Work out the percentage increase in the number of cars the company made from 2016 to 2017

..... %
(4)

The company's income in 2017 was \$500 000 more than the company's income in 2016

The company's income in 2017 was 8% more than the company's income in 2016

- (b) Work out the company's income in 2016

\$.....
(3)

(Total for Question 21 is 7 marks)

22 Antoine is going on holiday.

He makes 3 separate payments to cover the total cost of his holiday.

The following table shows how much money Antoine pays to the holiday company.

Payment	Amount paid
Payment 1	$\frac{3}{8}$ of the total cost
Payment 2	45% of the total cost
Payment 3	\$406

Work out how much Antoine has to pay for Payment 2

\$

(Total for Question 22 is 5 marks)

23 Jonty has a storage container in the shape of a cuboid, as shown in the diagram.

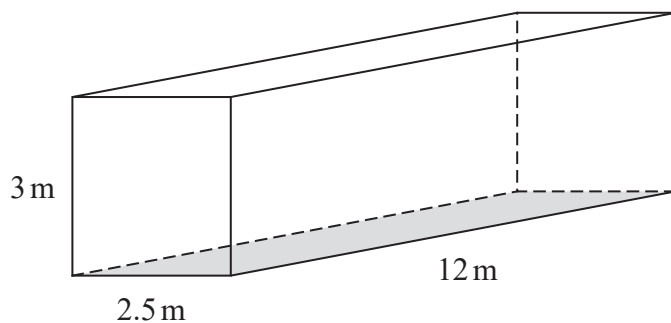


Diagram **NOT**
accurately drawn

Jonty is going to paint the outside of his storage container, apart from the base which is shown shaded in the diagram.

He needs enough paint to cover the four sides and the top.

Each tin of paint covers an area of 15 m^2

The cost of each tin of paint recently increased by 10%

After the increase, the cost of each tin of paint is £26.95

Jonty says

“**Before** the increase, I could have bought enough paint for less than £200”

Show that Jonty is correct.

Show your working clearly.

(Total for Question 23 is 6 marks)

24 Carlos, Flavia and Tazia shared £861 between themselves.

The amount of money Flavia got is 65% of the amount of money Carlos got.

The amount of money Tazia got is 22% **more** than the amount of money Carlos got.

Work out how much money Carlos got.

£

(Total for Question 24 is 3 marks)

25 Simon bought a house at the beginning of 2018

The value of Simon's house had decreased by 15% by the end of 2018

The house increased in value during both 2019 and 2020

The percentage increases in the value of the house during 2019 and 2020 were the same.

The value of Simon's house at the end of 2020 was 2.85% greater than the amount he paid for his house at the beginning of 2018

Calculate the percentage increase in the value of the house during 2019

.....%

(Total for Question 25 is 4 marks)

26 Chengbo sold a house for 180 000 yuan.

The amount for which he sold the house is 24% more than the amount he paid for the house.

- (a) Work out how much Chengbo paid for the house.
Give your answer correct to 3 significant figures.

..... yuan
(3)

Zhi bought a house on 1st January 2017

When she bought the house, its value was 120 000 yuan.

The value of the house increased by 1.8% per year.

- (b) Work out the value of Zhi's house on 1st January 2020
Give your answer correct to 3 significant figures.

..... yuan
(3)

(Total for Question 26 is 6 marks)