

## Questions

**Q1.**

A and B are two companies.

The table shows some information about the sales of each company and the number of workers for each company in 2004 and in 2014

	Company A		Company B	
	Sales (£ millions)	Number of workers	Sales (£ millions)	Number of workers
2004	320	2960	48	605
2014	388	3200	57	640

(a) Work out the percentage increase in sales from 2004 to 2014 for Company A.

..... %  
(2)

(b) Which company had the most sales per worker in 2014, Company A or Company B?  
You must show how you get your answer.

(3)

**(Total for question = 5 marks)**

**(Q23 1MA1/3F/N, Specimen papers )**

**Q2.**

In a sale, normal prices are reduced by 17%.  
The normal price of a washing machine is reduced by £42.50

Work out the sale price of the washing machine.

£ .....

**(Total for question = 3 marks)**

**(Q23 1MA1/3F/M2, Specimen papers )**

**Q3.**

Ali invests £400 for 5 years in a savings account.  
The account pays simple interest at a rate of 3.5% per year.

Work out the total amount of interest Ali gets.

£ .....

**(Total for question = 3 marks)**

**(Q14 1MA1/3F/M2, Specimen papers )**

**Q4.**

60% of the students at a school walk to school.

Work out the percentage of the students who do **not** walk to school.

..... %

**(Total for question = 1 mark)**

**(Q01 1MA1/2F/M3, Specimen papers )**

**Q5.**

Here is part of an advert for a driving school.

8 out of 10 of the people we teach pass the driving test first time
--

Ali talked to 56 people who had been taught to drive by the driving school.

43 of these people passed the driving test first time.

Does this support what is said in the advert?

You must show how you get your answer.

**(Total for question = 3 marks)**

**(Q13 1MA1/3F/M1, Specimen papers )**

**Q6.**

Write 0.8 as a percentage.

..... %

**(Total for question = 1 mark)**

**(Q02 1MA1/1F/S2, Specimen papers )**

**Q7.**

Write  $\frac{3}{5}$  as a percentage.

..... %

**(Total for question = 1 mark)**

**(Q05 1MA1/3F/S2, Specimen papers )**

**Q8.**

Write 0.9 as a percentage.

..... %

**(Total for question is 1 mark)**

**(Q04 1MA1/1F/S1, Specimen papers )**

**Q9.**

Jonny wants to know how much coffee he will need for 800 people at a meeting.

Each person who drinks coffee will drink 2 cups of coffee.

10.6 g of coffee is needed for each cup of coffee.

Jonny assumes 68% of the people will drink coffee.

(a) Using this assumption, work out the amount of coffee Jonny needs.

Give your answer correct to the nearest gram.

..... g  
(4)

Jonny's assumption is wrong.

72% of the people will drink coffee.

(b) How does this affect your answer to part (a)?

.....  
.....  
.....

(1)

**(Total for question = 5 marks)**

**Q10.**

Find 10% of £320

£ .....

**(Total for question = 1 mark)**

**(Q01 1MA1/1F/S2, Specimen papers )**

**Q11.**

Azmol is paid £1500 per month.

He is going to get a 3% increase in the amount of money he is paid.

Work out how much money Azmol will be paid per month after the increase.

£ .....

**(Total for question = 2 marks)**

**(Q20 1MA1/1F, June 2017)**

**Q12.**

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

A force of 70 newtons acts on an area of 20 cm<sup>2</sup>

The force is increased by 10 newtons.

The area is increased by 10 cm<sup>2</sup>

Helen says,

"The pressure decreases by less than 20%"

Is Helen correct?

You must show how you get your answer.

**(Total for question = 3 marks)**

**(Q06 1MA1/2H, June 2018)**

**Q13.**

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

A force of 70 newtons acts on an area of 20 cm<sup>2</sup>

The force is increased by 10 newtons. The area is increased by 10 cm<sup>2</sup>

Helen says,

"The pressure decreases by less than 20%"

Is Helen correct?

You must show how you get your answer.

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**(Total for question = 3 marks)**

**(Q25 1MA1/2F, June 2018)**

**Q14.**

There are only red buttons, yellow buttons and orange buttons in a jar.

The number of red buttons, the number of yellow buttons and the number of orange buttons are in the ratio 7 : 4 : 9

Work out what percentage of the buttons in the jar are orange.

..... %

**(Total for question = 2 marks)**

**(Q15 1MA1/1F, Nov 2017)**

**Q15.**

Irena sells ice creams.

One day she sells 80 ice creams.

The next day she sells 108 ice creams.

Work out the percentage increase in the number of ice creams she sells.

..... %

**(Total for question = 3 marks)**

**(Q17 1MA1/1F/S2, Specimen papers )**

**Q16.**

Work out 60% of 70

.....

**(Total for question = 2 marks)**

**(Q05 1MA1/1F, June 2017)**

**Q17.**

Emily buys a pack of 12 bottles of water.  
The pack costs £5.64

Emily sells all 12 bottles for 50p each.

Work out Emily's percentage profit.  
Give your answer correct to 1 decimal place.

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..... %

**(Total for question = 3 marks)**

**(Q17 1MA1/2F, Nov 2017)**

**Q18.**

Emily buys a pack of 12 bottles of water.  
The pack costs £5.64

Emily sells all 12 bottles for 50p each.

Work out Emily's percentage profit.  
Give your answer correct to 1 decimal place.

..... %

**(Total for question = 3 marks)**

**(Q02 1MA1/2H, Nov 2017)**

**Q19.**

In a sale, the price of a jacket is reduced.

The jacket has a normal price of £52  
The jacket has a sale price of £41.60

Work out the percentage reduction in the price of the jacket.

..... %

**(Total for question = 3 marks)**

**(Q12 1MA1/1H/M1, Specimen papers )**

**Q20.**

A television has a normal price of £675  
In a sale the price is reduced by 32%.

Work out the price of the television in the sale.

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£ .....

**(Total for question = 3 marks)**

**(Q19 1MA1/2F/M1, Specimen papers )**

**Q21.**

Carlo puts tins into small boxes and into large boxes.

He puts 6 tins into each small box.

He puts 20 tins into each large box.

Carlo puts a total of 3000 tins into the boxes so that

number of tins in small boxes : number of tins in large boxes = 2 : 3

Carlo says that less than 30% of the boxes filled with tins are large boxes.

Is Carlo correct?

You must show all your working.

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**(Total for question = 5 marks)**

**(Q03 1MA1/2H, Nov 2020)**

**Q22.**

An exam has two papers, Paper 1 and Paper 2

Paper 1 has 60 marks.

Paper 2 has 90 marks.

The pass mark is  $\frac{2}{3}$  of the total number of marks.

Danielle gets 70% of the marks for Paper 1

How many of the marks for Paper 2 must Danielle get in order to get the pass mark?

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.....  
**(Total for question = 4 marks)**

**(Q16 1MA1/2F, Nov 2020)**

**Q23.**

There are 200 people at a party.

$\frac{2}{5}$  of the people are children.

The rest of the people are adults.

35% of the children are vegetarian.

45% of the adults are vegetarian.

How many of the people are **not** vegetarian?

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.....  
**(Total for question = 5 marks)**

**(Q09 1MA1/3F, Nov 2024)**

**Q24.**

There are 400 counters in a box.  
The counters are red or yellow or green.

$\frac{3}{8}$  of the counters are red.

82 of the counters are yellow.

What percentage of the counters are green?

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..... %

**(Total for question = 4 marks)**

**(Q19 1MA1/3F, June 2022)**

**Q25.**

Costcorp sells packets of mints to shop owners.

On Monday three shop owners buy mints from Costcorp.

Each shop owner buys small packets, medium packets and large packets of mints.

Alan buys 400 packets of mints.

32 % are small packets.

40 % are large packets.

Beryl buys 500 packets of mints.

$\frac{3}{10}$  are small packets.

$\frac{1}{10}$  are large packets.

Charlie buys 150 small packets of mints so that

number of small packets : number of medium packets = 3 : 4

Work out the total number of medium packets of mints these shop owners buy.

You must show all your working.

.....  
**(Total for question = 5 marks)**

**(Q23 1MA1/3F, June 2019)**

**Q26.**

A delivery company has a total of 160 cars and vans.

the number of cars : the number of vans = 3 : 7

Each car and each van uses electricity or diesel or petrol.

$\frac{1}{8}$  of the cars use electricity.

25% of the cars use diesel.

The rest of the cars use petrol.

Work out the number of cars that use petrol.

You must show all your working.

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.....  
**(Total for question = 5 marks)**

**(Q25 1MA1/1F, June 2022)**

**Q27.**

Andy, Luke and Tina share some sweets in the ratio 1 : 6 : 14

Tina gives  $\frac{3}{7}$  of her sweets to Andy.

Tina then gives  $12\frac{1}{2}\%$  of the rest of her sweets to Luke.

Tina says,

"Now all three of us have the same number of sweets."

Is Tina correct?

You must show how you get your answer.

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**(Total for question = 4 marks)**

**(Q25 1MA1/2F, June 2024)**

**Q28.**

240 people work at a factory.

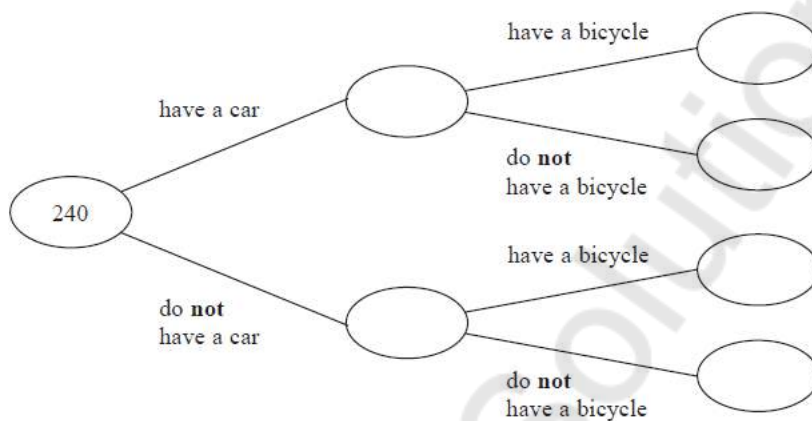
Of these people

150 have a car

110 have a bicycle

65 of the people who have a bicycle do **not** have a car.

(a) Use this information to complete the frequency tree.



(3)

(b) What percentage of the 150 people who have a car also have a bicycle?

..... %  
(2)

**(Total for question = 5 marks)**

**Q29.**

Fayyaz bought a mobile phone for £180  
He sold it at a profit of 22%

How much money did Fayyaz sell the mobile phone for?

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£ .....

**(Total for question = 2 marks)**

**(Q16 1MA1/2F/M2, Specimen papers )**

**Q30.**

Berenika wants to buy 35 T-shirts.

Each T-shirt costs £5.80

Berenika does the calculation  $40 \times 6 = 240$  to estimate the cost of 35 T-shirts.

(a) Explain how Berenika's calculation shows the actual cost will be less than £240

.....  
.....

(1)

There is a special offer.

T-shirts £5.80 each. Buy 30 or more T-shirts. Get 10% off the total cost.
---

(b) Work out the actual cost of buying 35 T-shirts using the special offer.

£ .....

(4)

**(Total for question = 5 marks)**

**Q31.**

In a shop, all normal prices are reduced by 20% to give the sale price.

The sale price of a TV set is then reduced by 30%.

Mary says,

" $30 + 20 = 50$ , so this means that the normal price of the TV set has been reduced by 50%."

Is Mary right?

You must give a reason for your answer.

.....  
.....  
.....

**(Total for question = 2 marks)**

**(Q15 1MA1/1H/N, Specimen papers )**

**Q32.**

Trevor buys a boat.

The cost of the boat is £14 200 plus VAT at 20%

Trevor pays a deposit of £5000

He pays the rest of the cost in 10 equal payments.

Work out the amount of each of the 10 payments.

£ .....

**(Total for question = 4 marks)**

**(Q18 1MA1/3F, Nov 2018)**

**Q33.**

Last year Jo paid £245 for her car insurance.  
This year she has to pay £883 for her car insurance.

Work out the percentage increase in the cost of her car insurance.

..... %

**(Total for question = 3 marks)**

**(Q02 1MA1/3H, Nov 2018)**

**Q34.**

Marie invests £8000 in an account for one year.  
At the end of the year, interest is added to her account.

Marie pays tax on this interest at a rate of 20%  
She pays £28.80 tax.

Work out the percentage interest rate for the account.

..... %

**(Total for question = 3 marks)**

**(Q10 1MA1/3H, June 2019)**

**Q35.**

Sean pays £10 for 24 chocolate bars.

He sells all 24 chocolate bars for 50p each.

Work out Sean's percentage profit.

..... %

**(Total for question = 3 marks)**

**(Q05 1MA1/1H, Nov 2020)**

**Q36.**

Jenny invests £3000 for 6 years at  $y\%$  simple interest per year.

At the end of the 6 years, Jenny has received a total of £450 in interest.

Work out the value of  $y$ .

$y =$  .....

**(Total for question = 3 marks)**

**(Q19 1MA1/3F, June 2023)**

**Q37.**

In a sale, the price of a cooker is reduced by 50%  
At the end of the sale, the sale price of the cooker is increased by 50%

Betty says,

"The cooker is now the same price as it was before the sale."

Is Betty correct?  
Explain why.

.....  
.....  
.....

**(Total for question = 2 marks)**

**(Q22 1MA1/1F/M3, Specimen papers )**

**Q38.**

Karen is organising a party for a charity.

She spends

- £100 on food
- £120 on a hall
- £80 on a DJ.

Karen sells 54 tickets for the party.  
Each ticket costs £7.50

Work out the percentage profit Karen makes for the charity.

..... %

**(Total for question = 4 marks)**

**(Q02 1MA1/2H, Nov 2023)**

**Q39.**

Chanda buys a necklace for £120  
She sells the necklace for £135

Work out her percentage profit.

..... %

**(Total for question = 3 marks)**

**(Q08 1MA1/2H, Nov 2022)**

**Q40.**

Aaliyah bought a car.

In the first year after she bought the car, its value depreciated at a rate of 23% per annum.  
In the second year after she bought the car, its value depreciated at a rate of 19% per annum.

At the end of the second year the car was worth £10 914.75

What was the value of the car when Aaliyah bought it?

£ .....

**(Total for question = 3 marks)**

**(Q10 1MA1/2H, Nov 2022)**

**Q41.**

Robyn buys a total of 240 pens and pencils, where

$$\text{number of pens} : \text{number of pencils} = 3 : 5$$

Robyn pays 9p for each pen.  
She sells each pen for 11p.

Robyn pays 6p for each pencil.  
She sells each pencil for 10p.

Robyn sells all of the pens and pencils.

Work out Robyn's percentage profit.  
Give your answer correct to 1 decimal place.  
You must show all your working.

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.....%

**(Total for question = 5 marks)**

**(Q21 1MA1/3F, Nov 2024)**

**Q42.**

Riddington and Greenwick are two small villages.

The population of Riddington has increased from 80 people to 120 people.

The population of Greenwick has decreased from 200 people to 120 people.

Show that Riddington has had the greater percentage change in its population.

You must show all your working.

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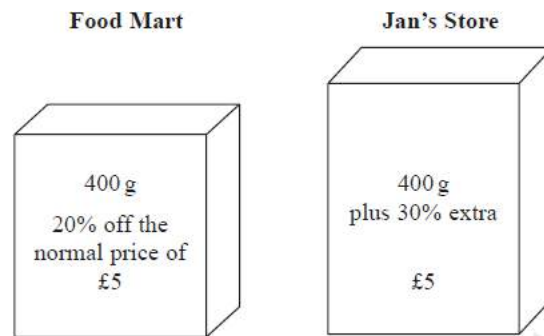
**(Total for question = 3 marks)**

**(Q17 1MA1/2F/M3, Specimen papers )**

**Q43.**

Food Mart and Jan's Store sell boxes of the same type of breakfast cereal.

Each shop has a special offer.



Which box of cereal is the better value for money?  
You must show your working.

**(Total for question = 4 marks)**

**(Q18 1MA1/1F, Nov 2018)**

**Q44.**

A bonus of £2100 is shared by 10 people who work for a company.  
40% of the bonus is shared equally between 3 managers.  
The rest of the bonus is shared equally between 7 salesmen.

One of the salesmen says,

"If the bonus is shared equally between all 10 people I will get 25% more money."

Is the salesman correct?

You must show how you get your answer.

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**(Total for question = 5 marks)**

**(Q22 1MA1/1F, Nov 2018)**

**Q45.**

Adam gets a bonus of 30% of £80  
Katy gets a bonus of £28

Work out the difference between the bonus Adam gets and the bonus Katy gets.

£ .....

**(Total for question = 3 marks)**

**(Q11 1MA1/2F, Nov 2018)**

**Q46.**

A bonus of £2100 is shared by 10 people who work for a company.  
40% of the bonus is shared equally between 3 managers.  
The rest of the bonus is shared equally between 7 salesmen.

One of the salesmen says,

"If the bonus is shared equally between all 10 people I will get 25% more money."

Is the salesman correct?

You must show how you get your answer.

**(Total for question = 5 marks)**

**(Q03 1MA1/1H, Nov 2018)**

**Q47.**

There are men and women at a meeting.

There are 28 women.

30% of the people at the meeting are men.

Work out the total number of people at the meeting.

.....  
**(Total for question = 3 marks)**

**(Q11 1MA1/3F, Nov 2018)**

**Q48.**

Work out 20% of 80

.....  
**(Total for question = 2 marks)**

**(Q06 1MA1/3F, June 2019)**

**Q49.**

Maria invests £4500 in a savings account for 3 years.  
The account pays simple interest at a rate of 1.8% per year.

Work out the total amount of interest Maria gets by the end of the 3 years.

£ .....

**(Total for question = 2 marks)**

**(Q16 1MA1/2F, Nov 2019)**

**Q50.**

There are 800 students at a school.  
Each student has either a school dinner or a packed lunch.

31% of the students have packed lunches.

55% of the students are boys.  
60% of the boys have school dinners.

How many girls have packed lunches?  
You must show all your working.

.....

**(Total for question = 4 marks)**

**(Q15 1MA1/3F, Nov 2019)**

**Q51.**

Franco buys a house for £146 500

He sells the house for £158 220

Calculate the percentage profit Franco makes.

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..... %

**(Total for question = 3 marks)**

**(Q21 1MA1/3F, Nov 2019)**

**Q52.**

Here are the types of sandwiches sold in a cafe last week.

Sandwiches
Tuna
Cheese
Chicken
Egg

56 tuna sandwiches were sold.

This was 40% of the total number of sandwiches sold.

(a) Work out the total number of sandwiches sold.

.....  
(2)

Of the 56 tuna sandwiches sold, 18 were sold on Friday.

(b) Write 18 as a percentage of 56

Give your answer correct to the nearest whole number.

..... %  
(2)

**(Total for question = 4 marks)**

**(Q19 1MA1/3F, Nov 2020)**

**Q53.**

Robin buys a watch for £80  
He sells the watch for £56

Work out his percentage loss.

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..... %

**(Total for question = 3 marks)**

**(Q19 1MA1/1F, Nov 2021)**

**Q54.**

At the end of 2017

the value of Tamara's house was £220 000

the value of Rahim's house was £160 000

At the end of 2019

the value of Tamara's house had decreased by 20%

the value of Rahim's house had increased by 30%

At the end of 2019, whose house had the greater value?

You must show how you get your answer.

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**(Total for question = 4 marks)**

**(Q04 1MA1/1H, Nov 2021)**

**Q55.**

In a sale, the normal price of a boat is reduced by 15%  
The sale price of the boat is £272 000

Work out the normal price of the boat.

£ .....

**(Total for question = 2 marks)**

**(Q28 1MA1/2F, Nov 2021)**

**Q56.**

Increase 240 by 20%

.....

**(Total for question = 3 marks)**

**(Q19 1MA1/1F, June 2022)**

**Q57.**

Write 0.4 as a percentage.

..... %

**(Total for question = 1 mark)**

**(Q05 1MA1/2F, June 2022)**

**Q58.**

The value of Michelle's car has decreased by 15%  
The car now has a value of £13 600

Work out the value of Michelle's car before the decrease.

£ .....

**(Total for question = 2 marks)**

**(Q30 1MA1/3F, June 2022)**

**Q59.**

Jane bought a new car three years ago.

At the end of the first year the value of the car had decreased by 12.5%  
The value of the car then decreased by 10% each year for the next two years.

At the end of the three years, the value of the car was £17 010

Work out the value of the car when Jane bought it three years ago.

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£ .....

**(Total for question = 3 marks)**

**(Q10 1MA1/3H, June 2022)**

**Q60.**

214 people go on a school trip.  
The people on the trip are either adults or children.

There are 14 adults on the trip.  
35% of the children on the trip are wearing a hat.

Find the number of children on the trip who are **not** wearing a hat.

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.....  
**(Total for question = 4 marks)**

**(Q11 1MA1/2F, Nov 2022)**

**Q61.**

The population of a town increased by 9% between 2018 and 2019  
The population in 2019 was 165 680

Calculate the population in 2018

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.....  
**(Total for question = 2 marks)**

**(Q26 1MA1/2F, Nov 2022)**

**Q62.**

Jonny wants to know how much coffee he will need for 800 people at a meeting.

Each person who drinks coffee will drink 2 cups of coffee.

10.6 g of coffee is needed for each cup of coffee.

Jonny assumes 68% of the people will drink coffee.

(a) Using this assumption, work out the amount of coffee Jonny needs.

Give your answer correct to the nearest gram.

..... g  
(4)

Jonny's assumption is wrong.

72% of the people will drink coffee.

(b) How does this affect your answer to part (a)?

.....  
.....  
.....

(1)

**(Total for question = 5 marks)**

**Q63.**

Some people were asked if they wanted a new television.

70% of the people said yes.

80% of the people who said yes wanted a television with a large screen.

What percentage of the people asked said they wanted a television with a large screen?

..... %

**(Total for question = 2 marks)**

**(Q09 1MA1/3H, June 2023)**

**Q64.**

Work out 50% of 240

.....

**(Total for question = 1 mark)**

**(Q05 1MA1/2F, Nov 2023)**

**Q65.**

Martha and Nabeel share £120

Martha gets 72% of the money.

She spends 30% of the money she gets.

How much money does Martha have left?

£ .....

**(Total for question = 3 marks)**

**(Q15 1MA1/2F, Nov 2023)**

**Q66.**

Shah takes an exam.

The exam is out of 60 marks.

Shah needs to score at least 70% of the marks to pass the exam.

He scores 45 marks.

Show that Shah passes the exam.

**(Total for question = 2 marks)**

**(Q16 1MA1/1F, Nov 2023)**

**Q67.**

In a sale, normal prices are reduced by 30%

The sale price of a TV is £280

Work out the normal price of the TV.

£ .....

**(Total for question = 2 marks)**

**(Q27 1MA1/1F, June 2024)**

**Q68.**

In a sale, the normal price of a coat is reduced by  $R\%$

Given that

$$\text{sale price} = 0.7 \times \text{normal price}$$

find the value of  $R$ .

$R =$  .....

**(Total for question = 1 mark)**

**(Q09 1MA1/1H, June 2024)**

**Q69.**

£3500 is invested in a bank for 6 years.

The bank pays **simple** interest at a rate of 2.5% per year.

Work out the total amount of simple interest paid.

£ .....

**(Total for question = 2 marks)**

**(Q15 1MA1/2F, June 2024)**

**Q70.**

Which is greater

15% of 88 **or** 20% of 62?

You must show all your working.

**(Total for question = 3 marks)**

**(Q15 1MA1/3F, June 2024)**

**Q71.**

A company has 25 000 workers.

The number of workers increases at a rate of 6% per year for 3 years.

Calculate the total number of workers at the end of the 3 years.

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.....  
**(Total for question = 4 marks)**

**(Q25 1MA1/3F, June 2024)**

**Q72.**

A company has 25 000 workers.

The number of workers increases at a rate of 6% per year for 3 years.

Calculate the total number of workers at the end of the 3 years.

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.....  
**(Total for question = 4 marks)**

**(Q04 1MA1/3H, June 2024)**

**Q73.**

The cost of a first class stamp increased from 76p to 85p.  
The cost of a second class stamp increased from 65p to 66p.

Filip says,

"The percentage increase in the cost of a first class stamp is more than 7 times the percentage increase in the cost of a second class stamp."

Is Filip correct?

You must show all your working.

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**(Total for question = 4 marks)**

**(Q25 1MA1/2F, Nov 2024)**

**Q74.**

Last week, 73% of the tickets sold at a cinema were adult tickets.

(a) What percentage of the tickets sold were **not** adult tickets?

..... %  
(1)

Some people watched a film at the cinema.

number of adults : number of children = 2 : 5

(b) What fraction of these people were adults?

.....  
(1)

On Friday,

500 people watched a film at the cinema.

70% of these people were children.

On Saturday,

720 people watched the film at the cinema.

$\frac{5}{8}$  of these people were children.

Kasim thinks more children watched the film on Friday than on Saturday.

(c) Is Kasim correct?

You must show how you get your answer.

(3)

**(Total for question = 5 marks)**

**(Q14 1MA1/1F, June 2023)**

**Q75.**

Mr Page uses oil to heat his home.

At the beginning of November there were 1000 litres of oil in his oil tank.

Mr Page bought enough oil to fill the tank completely.

He paid 50p per litre for this oil.

He paid a total amount of £750

At the end of February Mr Page had 600 litres of oil in the tank.

He bought enough oil to fill the tank completely.

The cost of oil had increased by 4%.

Work out the total amount Mr Page paid for the oil he bought in February.

£ .....

**(Total for question = 5 marks)**

**(Q15 1MA1/2F, Nov 2017)**

**Q76.**

Katy invests £2000 in a savings account for 3 years.

The account pays compound interest at an annual rate of

2.5% for the first year

$x\%$  for the second year

$x\%$  for the third year

There is a total amount of £2124.46 in the savings account at the end of 3 years.

(a) Work out the rate of interest in the second year.

.....  
(4)

Katy goes to work by train.

The cost of her weekly train ticket increases by 12.5% to £225

(b) Work out the cost of her weekly train ticket before this increase.

£.....  
(2)

**(Total for question = 6 marks)**

**(Q10 1MA1/2H/N, Specimen papers)**

**Q77.**

A shop has a sale.

Microwave ovens $\frac{1}{3}$ off normal price
---

Combination ovens 40% off normal price
---

A microwave oven has a sale price of £90  
A combination oven has a sale price of £84

Which of these ovens has the greater normal price?  
You must show all your working.

**(Total for question = 4 marks)**

**(Q07 1MA1/1H/S2, Specimen papers )**

**Q78.**

The price of all rail tickets increased by 5 %.  
The price of a rail ticket from London to Ipswich increased by £2.30

Work out the price of the ticket before the increase.

£ .....

**(Total for question = 2 marks)**

**(Q05 1MA1/3H/M1, Specimen papers )**

**Q79.**

In a company, the ratio of the number of men to the number of women is 3:2

40% of the men are under the age of 25

10% of the women are under the age of 25

What percentage of all the people in the company are under the age of 25?

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..... %

**(Total for question = 4 marks)**

**(Q25 1MA1/1F/N, Specimen papers )**

**Q80.**

On a school trip the ratio of the number of teachers to the number of students is 1 : 15

The ratio of the number of male students to the number of female students is 7 : 5

Work out what percentage of all the people on the trip are female students.  
Give your answer correct to the nearest whole number.

Mathvault.io Solutions

..... %

**(Total for question = 3 marks)**

**(Q23 1MA1/2F/M2, Specimen papers )**

**Q81.**

Kim, Laura and Molly share £385

The ratio of the amount of money Kim gets to the amount of money Molly gets is 2 : 5  
Kim gets £105 less than Molly gets.

What percentage of the £385 does Laura get?

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..... %

**(Total for question = 4 marks)**

**(Q03 1MA1/3H/M1, Specimen papers )**

**Q82.**

On Saturday, some adults and some children were in a theatre.  
The ratio of the number of adults to the number of children was 5 : 2

Each person had a seat in the Circle or had a seat in the Stalls.

$\frac{3}{4}$  of the children had seats in the Stalls.

117 children had seats in the Circle.

There are exactly 2600 seats in the theatre.

On this Saturday, were there people on more than 60% of the seats?  
You must show how you get your answer.

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**(Total for question = 5 marks)**

**(Q02 1MA1/2H, June 2017)**

**Q83.**

In 2003, Jerry bought a house.

In 2007, Jerry sold the house to Mia.  
He made a profit of 20%

In 2012, Mia sold the house for £162 000  
She made a loss of 10%

Work out how much Jerry paid for the house in 2003

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£ .....

**(Total for question = 3 marks)**

**(Q11 1MA1/3H, June 2018)**

**Q84.**

An estimate of the height,  $H$  metres, of a tall building can be found using the formula

$$H = 4f + 12$$

where the building is  $f$  floors high.

A tall building is 110 floors high.

The real height of the building is 442 m.

Seb uses the formula to find an estimate of the height of this building.  
He then finds the difference between his estimate and the real height.

Show that this difference is less than 5% of the real height.

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**(Total for question = 4 marks)**

**(Q20 1MA1/2F, Nov 2019)**

**Q85.**

There are 200 counters in a bag.

38 counters are red.

52 counters are blue.

The rest of the counters are yellow or green.

There are the same number of yellow counters as green counters.

What percentage of the counters in the bag are yellow?

Mathvault.io Solutions

..... %

**(Total for question = 4 marks)**

**(Q17 1MA1/1F, June 2023)**

**Q86.**

In a sale, the normal price of a book is reduced by 30%.  
The sale price of the book is £2.80

Work out the normal price of the book.

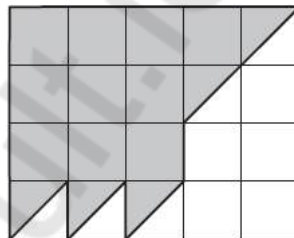
£ .....

**(Total for question = 2 marks)**

**(Q30 1MA1/1F, Nov 2017)**

**Q87.**

What percentage of this shape is shaded?



..... %

**(Total for question is 3 marks)**

**(Q09 1MA1/2F/S1, Specimen papers )**

**Q88.**

$$T = \sqrt{\frac{w}{d^3}} \quad w = 5.6 \times 10^{-5}$$
$$d = 1.4 \times 10^{-4}$$

(a) Work out the value of  $T$ .

Give your answer in standard form correct to 3 significant figures.

$$T = \dots\dots\dots$$

(2)

$w$  is increased by 10%  
 $d$  is increased by 5%

Lottie says,

"The value of  $T$  will increase because both  $w$  and  $d$  are increased."

(b) Lottie is wrong.

Explain why.

.....  
.....

(2)

**(Total for question = 4 marks)**