



Q1 Q1 – Finding compound interest

Find the final value and the compound interest if £4000 is invested for 2 years at 6% p.a.

final value = £ [1]

interest = £ [1]

Find the final value if £1500 is invested for 7 years at 9.1% p.a.

final value = £ [2]

Find the final value if £6000 is invested for 11 years at 6.6% p.a.

final value = £ [2]

Give your answers to the nearest £.

Mark it



Q2 Q2 – Applying compound interest

Find the interest rate if £9400 has a final value of £10843 in 2 years. Give your answer to 1 d.p.

compound interest rate = % p.a. [3]

Ellie wants to double her savings of £7000 by investing her money for 8 years.

What interest rate does she need to look for? Give your answer to 1 d.p.

compound interest rate = % p.a. [3]

3 years ago, Jez invested £40000 at a compound interest rate of 10% p.a.

10 years ago, Kat invested £40000 at a compound interest rate of 3% p.a.

Whose investment is worth more now, and by how much? Give your answer to the nearest £.

Jez Kat [1]

extra = £ [2]

Mark it



Q1 Q1 – Simple questions

0
8

An item that costs £9800 to buy new depreciates at 14% p.a.

Calculate the depreciated value of the item and the amount of depreciation after 5 years.

Give your answers to the nearest pound.

Depreciated value = £ [2]

Depreciation = £ [2]

Q2

0
12

A new sound system is valued at £2400. Every 6 months it depreciates by 18%.

Find its value after 6 years.

Depreciated value = £ [2]



The price of a new boat is £40000. Each year its value depreciates by 14%.
How much value will it lose in 4 years?

Value lost = £ [2]

Mark it



Q1 Q2 – Harder questions

0
8

The original price of a leather sofa is £7000.

If its value is £1878.11 after 9 years find the depreciation rate.

Give your answer to 1 decimal place.

Rate = % p.a. [4]

Q2

0
12

The population of a country town is decreasing at a rate of 2% p.a.

How many years will it take for the town's population of 19000 to fall below 10000?

Time taken = years [4]

A second hand car is valued at £16791.47, 4 years from when it was purchased new.

Find its new price if it depreciated by 12% p.a. Give your answer to the nearest thousand pounds.

New price = £ [4]

Mark it

Total

0
20



Q1 Q1 – Using multipliers

Write down the multipliers for these percentage changes:

To increase an amount by 19%, multiply by [1]

To decrease an amount by 47%, multiply by [1]

Work out these percentage changes.

Increase £58 by 40% £ [2]

Increase £120 by 21% £ [2]

Decrease £27 by 70% £ [2]

Decrease £220 by 44% £ [2]

Mark it



Q1 Q2 – Reverse percentages

Jane's salary is increased by 2% to £26724.

How much was her salary before the rise? £ [3]

During a promotion some bags of sweets contain 10% extra free.

There are 55 sweets in a bag during the promotion.

How many sweets are there normally? [3]

An electrical shop reduces display goods by 10%.

A display TV is sold for £135.

What is the usual price of the same TV? £ [3]

The price of a coat is reduced by 55% in a sale.

The sale price is £24.75.

What was the price before? £ [3]

Mark it



Q1 Q1 - Working out incomes

0
10

Helen is in telemarketing. She is paid a commission of 2.5% of the sales she makes plus a retainer of £95. Calculate Helen's income in a week where she successfully made sales totalling £40200.

£ [3]

Stanley owns his own truck that can carry 5 tonnes fully loaded. He charges £550 a load. Calculate his income for transporting 45 tonnes.

£ [3]

Q2

0
10

John sews T-shirts in a factory. He is paid £1.75 per T-shirt. Calculate his income in a week where he made 500 T-shirts.

£ [2]

Beth is a casual nurse. She receives £10.40 per hour, and works two 12-hour shifts. How much is she paid?

£ [2]

Total

0
20

Mark it



Q1 Q2 - Harder questions

0
10

Shelby is an estate agent selling luxury houses. Her commission is 0.07% of the first £300000 of the selling price and 0.15% of the remainder. If she sells a house for £1.7 million, what will Shelby's commission be?

£ [3]

Brett is a fruitpicker. He is paid £8.05 for a box of cherries and he can fill 20 boxes in a 7-hour day.

Find his hourly rate of pay.

£ [2]

Q2

0
10

Chris is a car salesperson. He is paid commission of 1.4% plus a retainer of £170. What is the total value of the cars he sold in a week when he was paid £1290?

£ [3]

How long will it take Brett to earn £1932?

days [2]

Total

0
20

Mark it



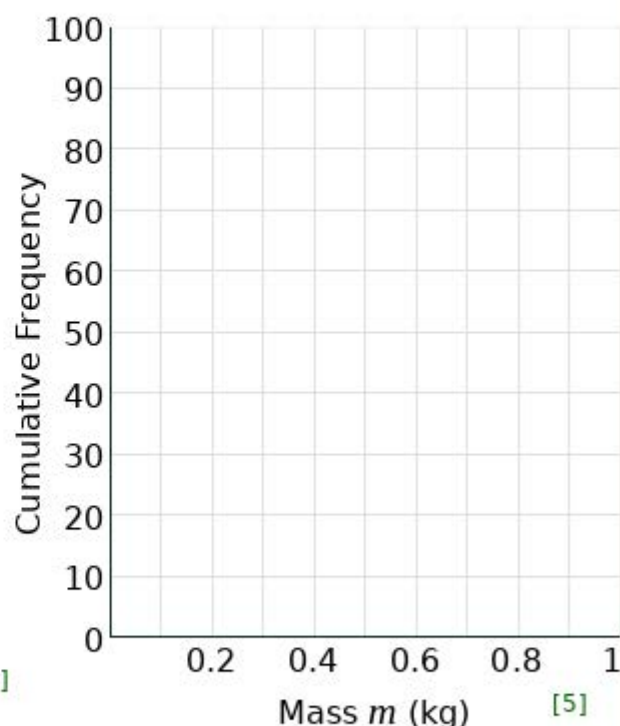


Q1 Q1 - Creating a c.f. graph

A delivery company did a survey to find out more about the parcels they were delivering.

Complete the table of cumulative frequencies (c.f.) and plot the points.

mass m (kg)	frequency	mass m (kg)	c.f
$0 < m \leq 0.1$	1	$m \leq 0.1$	X
$0.1 < m \leq 0.2$	5	$m \leq 0.2$	X
$0.2 < m \leq 0.5$	19	$m \leq 0.5$	X
$0.5 < m \leq 0.8$	52	$m \leq 0.8$	X
$0.8 < m \leq 1$	23	$m \leq 1$	X



How many parcels did they survey?

[6]

[5]

Mark it



Q2 Q2 - Using a c.f. graph

The cumulative frequency graph shows the results of a survey of people's heights. Fill in the frequency table.

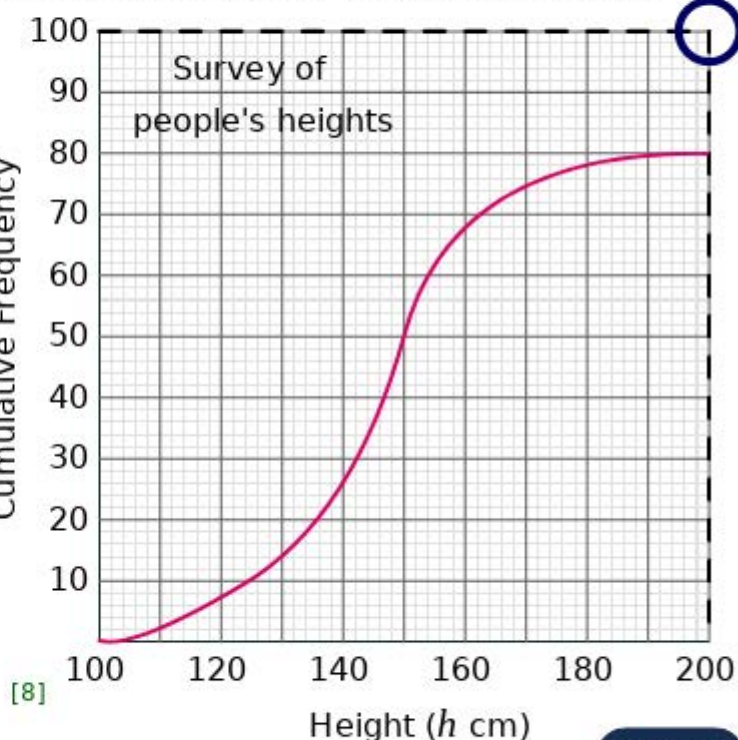
height h (cm)	frequency
$100 < h \leq 120$	
$120 < h \leq 140$	
$140 < h \leq 160$	
$160 < h \leq 180$	
$180 < h \leq 200$	

Estimate how many people are:

shorter than 150 cm

taller than 170 cm

Estimate the median height. cm



Mark it



Q1 Q1 - Creating a histogram

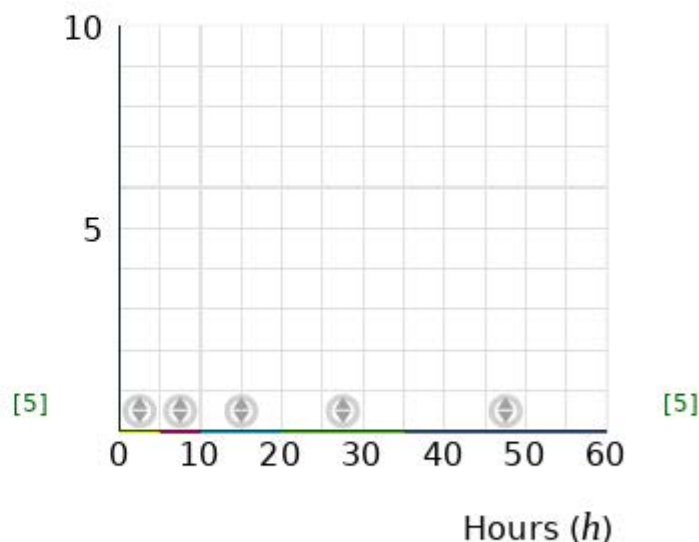
245 people took part in a survey to find out how many hours per week they spend travelling by train.

Complete the table.

hours per week	number of people	frequency density
$0 < h \leq 5$	45	
$5 < h \leq 10$	25	
$10 < h \leq 20$	90	
$20 < h \leq 35$	60	
$35 < h \leq 60$	25	

Draw a histogram of the data.

Frequency
Density

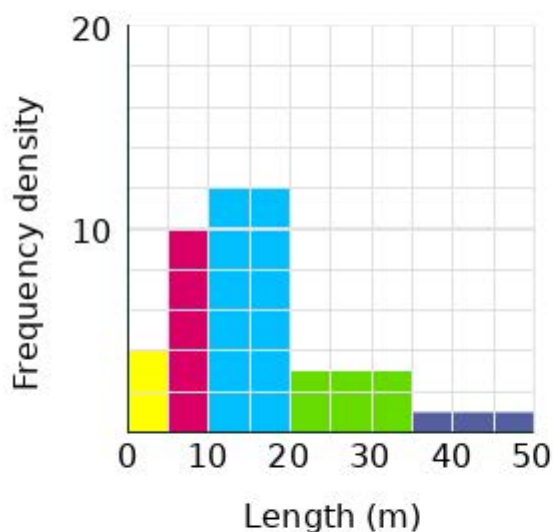


Mark it



Q2 Q2 - Using a histogram

The histogram shows the results of a survey conducted at a gardening show. The question was "How long is your garden?"



Use the histogram to complete the frequency table.

garden length (m)	frequency
$0 < l \leq 5$	
$5 < l \leq 10$	
$10 < l \leq 20$	
$20 < l \leq 35$	
$35 < l \leq 50$	

total [6]

mean = m [4]

Give your answer 1 d.p. or better.

working out

reset

Mark it

Calculate an estimate for the mean length of the gardens.



Q1

Q1 – Types of data

0
6

State whether each of these variables is qualitative, discrete or continuous.

The amount of fuel in the cars in a car park.

☐

Qualitative

☐

Discrete

☐

Continuous

[2]

Q2

0
8

The number of students in a class.

☐

Qualitative

☐

Discrete

☐

Continuous

[2]

No
calc



The height of the students in a class.

☐

Qualitative

☐

Discrete

☐

Continuous

[2]

Total

0
14

Mark it



Q1

Q2 – Definitions

0
6

Match each word with the correct description.

Q2

0
8

Data collected by you (or on your behalf).

Data collected from part of the population.

Data which is measured.

Data which uses numbers.

?

?

?

?

primary
data

quantitative
data

continuous
data

sample

No
calc



Total

0
14

[8]

Mark it



Q1 Q1 – Surveys

Choose the most appropriate survey

random (r)

one of each: systematic (m)

stratified (s) [3]

To check the weights of the contents put into 500g cereal packets on a production line. ☐

Survey of pupils in a particular school about the amount of time per week that they spend playing computer games. ☐

To estimate the average number shown by a roulette wheel after each spin. ☐

A forest ranger wants to do a survey to check the general health of the trees in their care.

These are:

Oak	80
Beech	64
Walnut	16
Pine	128
Spruce	32

They have enough time to survey 20 trees, and they want to do a stratified survey.

How many trees are there? [1]How many oaks should they survey? [2]How many pines should they survey? [2]

Mark it



Q1 Q2 – Company car parking

A company wants to conduct a survey about the parking arrangements on its premises.

They want a stratified sample of 60 people, to represent the different viewpoints of full-time and part-time workers, and those who drive to work, and those who don't.

The table shows how many employees drive.

	drive	don't drive
full-time	98	88
part-time	129	105

Complete this new table, which will show how many of each category should be in the survey. [8]

	drive	don't drive
full-time		
part-time		

Mark it