Name	Class

MATHS TEACHER HUB

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Money calculations
(9 – 1) Topic booklet

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

Instructions
•Use **black** ink or ball-point pen.
•**Fill in the boxes** at the top of this page with your name, centre number and candidate number.
•Answer **all** questions.
•Answer the questions in the spaces provided
 – *there may be more space than you need*.
•Diagrams are NOT accurately drawn, unless otherwise indicated.
•You must **show all your working out.**
•If the question is a **1F** question you are not allowed to use a calculator.
•If the question is a **2F** or a **3F** question, you may use a calculator to help you answer.

Information
•The marks for **each** question are shown in brackets
 – *use this as a guide as to how much time to spend on each question*.

Advice
•Read each question carefully before you start to answer it.
•Keep an eye on the time.
•Try to answer every question.
•Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

4   The table gives information about the prices of cinema tickets.

Cinema ticket	Price
adult ticket	£7.80
child ticket	£5.80
family ticket (for 4 people)	£24.30

Mr Edwards and his 3 children go to the cinema.

It is cheaper for Mr Edwards to buy 1 family ticket rather than 4 separate tickets.

(a) How much cheaper?

....

(3)

The film starts at 6.45 pm.
The film lasts 102 minutes.

(b) What time does the film finish?

....

(2)

(Total for Question 4 is 5 marks)

5 A shop sells pens at different prices.
The cheapest pens in the shop cost 27p each.

Lottie buys 18 pens from the shop.
She pays with a £10 note.

(a) If Lottie buys 18 of the cheapest pens, how much change should Lottie get?

£...

(2)

Instead of buying the cheapest pens, Lottie buys 18 of the more expensive pens.
She still pays with a £10 note.

(b) How does this affect the amount of change she should get?

....

....

(1)

(Total for Question 5 is 3 marks)

5 Faiza buys

  one magazine costing £2.30
  one paper costing 92p
  two identical bars of chocolate

Faiza pays with a £5 note.
She gets 40p change.

Work out the cost of **one** bar of chocolate.

....

(Total for Question 5 is 3 marks)

6   Fay is planning a trip to a theme park for 1 adult and 2 children.

These are the costs for the trip.

Total cost of petrol	£23
Tickets to theme park	£33 each adult
	£24.50 each child
Meals	£15 each adult
	£10 each child

Fay has £200 to spend.
She pays all the costs.

How much money does she have left?

£..

(Total for Question 6 is 4 marks)

6 There are 14 rows of seats in a cinema.
There are 15 seats in each row.

A film was shown in the cinema on Saturday.
Each ticket for the film cost £6.50

The tickets that were sold cost a total of £1274

How many tickets were **not** sold?

....

(Total for Question 6 is 3 marks)

6 Harry is planning a holiday for 4 people for 7 days.

Here are the costs for the holiday for **each person**.

Travel	£150
Hotel	£50 for each day
Spending money	£250

Work out the total cost of the holiday for 4 people for 7 days.

£...

(Total for Question 6 is 4 marks)

6 There are 495 coins in a bottle.

$\frac{1}{3}$ of the coins are £1 coins.

124 of the coins are 50p coins.
The rest of the coins are 20p coins.

Work out the total value of the 495 coins.

£...

(Total for Question 6 is 4 marks)

7 208 bars of chocolate were sold from a shop.

$\frac{1}{4}$ of these bars of chocolate were large bars.

The rest of the bars of chocolate were small bars.

All the large bars of chocolate were sold for £1 each.
All the small bars of chocolate were sold for 60p each.

Work out the total amount of money for which the 208 bars of chocolate were sold.
Give your answer in pounds.

£...

(Total for Question 7 is 3 marks)

7 Simon buys some candles.
Each candle costs £2

Simon pays with a £20 note.
He gets £6 change.

Work out the number of candles Simon buys.

....

(Total for Question 7 is 3 marks)

7 Fahima buys

      2 packets of bread rolls costing £1.50 for each packet
      1 bottle of ketchup costing £1.60
      3 packets of sausages

Fahima pays with a £10 note.
She gets 30p change.

Fahima works out that one packet of sausages costs £2.30

Is Fahima right?
You must show how you get your answer.

(Total for Question 7 is 3 marks)

7 Tracy buys

2 coffees at	£1.10	each
3 teas at	95p	each
5 sandwiches at	£2.15	each

Tracy shares the total cost equally between 5 people.

How much does each person pay?

£...

(Total for Question 7 is 4 marks)

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7 One day Sally earned £60
She worked for 8 hours.

Work out Sally's hourly rate of pay.

£...

(Total for Question 7 is 2 marks)

8 Safiya wants to hire a van.
She uses this rule to work out the cost of hiring a van for a number of days.

$$\text{Cost} = £45 \times \text{number of days}$$

Safiya is going to hire the van for 7 days.

Work out the cost.

£...

(Total for Question 8 is 2 marks)

8 On Monday, Sandy pays for 2 plane tickets, 7 nights in a hotel and 2 theme park tickets.

	dollars
each plane ticket	600
each night in a hotel	120
each theme park ticket	250

Show that Sandy pays more than 2500 dollars on Monday.

(Total for Question 8 is 3 marks)

8 Karim buys 200 tiles.

The tiles are sold in boxes.
There are 25 tiles in each box.
Each box of tiles costs £9.75

Work out the total cost of the boxes of tiles Karim buys.

£ ....

(Total for Question 8 is 3 marks)

8 Neil buys 30 pens, 30 pencils, 30 rulers and 30 pencil cases.

Price list	
pens	6 for 82p
pencils	15 for 45p
rulers	10 for £1.25
pencil cases	37p each

What is the total amount of money Neil spends?

£.....................................

(Total for Question 8 is 5 marks)

8 Joanne wants to buy a dishwasher.

The dishwasher costs £372

Joanne will pay a deposit of £36
She will then pay the rest of the cost in 4 equal monthly payments.

How much is each monthly payment?

£..

(Total for Question 8 is 2 marks)

8 2 pens cost £2.38
5 folders cost £5.60

Ben wants to buy 20 pens and 20 folders.
He only has £50

Does Ben have enough money to buy 20 pens and 20 folders?
You must show how you get your answer.

(Total for Question 8 is 4 marks)

9 Danny buys,

          1 loaf of bread for £1.20
          1 bottle of milk for 70p
          2 packets of cheese for £2.30 each packet

Danny pays with a £10 note.

He says,

          "I should get £3.30 change."

Is Danny correct?
You must show how you get your answer.

(Total for Question 9 is 3 marks)

9 Sean works for a company.
His normal rate of pay is £12 per hour.

When Sean works more than 8 hours a day, he is paid overtime for each hour he works more than 8 hours.

Sean's rate of overtime pay per hour is $1\frac{1}{4}$ times his normal rate of pay per hour.

On Monday Sean worked for 10 hours.

Work out the total amount of money Sean earned on Monday.

£..

(Total for Question 9 is 4 marks)

10 A shop sells jars of coffee.
Each jar of coffee costs £4

Michael has £23

(a) Work out the greatest number of jars of coffee Michael can buy.

....

(2)

In a sale on Wednesday, jars of coffee are sold at half price.

Michael thinks that he can now buy exactly twice the number of jars of coffee for £23

(b) Is Michael correct?
You must give a reason for your answer.

....

....

....

(1)

(Total for Question 10 is 3 marks)

10 Corina has £300 to spend on books.
Each book costs £4.85

Work out the greatest number of books Corina can buy.

....

(Total for Question 10 is 3 marks)

10 Sonia wants to book a holiday.
The holiday will cost £1428

Sonia will pay a deposit of £150
She will then pay the rest of the cost in 6 equal monthly payments.

How much is each monthly payment?

£..

(Total for Question 10 is 3 marks)

10 Here is the charge at a car park in Spain.

Car park
0.024 euros per minute

Jon parked his car in this car park.

Jon drove into the car park at 1045
When he drove out of the car park he had to pay 8.40 euros.

At what time did Jon drive out of the car park?

....

(Total for Question 10 is 3 marks)

10 Tim and three friends go on holiday together for a week.

The 4 friends will share the costs of the holiday equally.

Here are the costs of the holiday.

£1280 for 4 return plane tickets
£640 for the villa
£220 for hire of a car for the week

Work out how much Tim has to pay for his share of the costs.

£ ....

(Total for Question 10 is 3 marks)

10 Bronwin works in a restaurant.

The table gives her rates of pay.

Day	Rate of pay
Monday to Friday	£8.40 per hour
Weekend	£11.20 per hour

Bronwin worked for a total of 20 hours last week.
She worked 8 of these 20 hours at the weekend.

Show that Bronwin was paid less than £200 last week.

(Total for Question 10 is 3 marks)

11 At the end of October, Fiona's electricity meter reads 88 738 kWh.
At the end of November, her electricity meter reads 89 198 kWh.

Each kWh of electricity Fiona uses costs 16p

Work out how much Fiona had to pay for the electricity she used in November.

....

(Total for Question 11 is 4 marks)

11 Dylan buys 13 bicycle lights for £7.50 each.
He pays with five £20 notes.

(a) How much change should Dylan get?

£..

(3)

The normal price of a bicycle is £120

In a sale, there is $\frac{1}{5}$ off the normal price of the bicycle.

(b) Work out the price of the bicycle in the sale.

£..

(2)

(Total for Question 11 is 5 marks)

11 The table shows the costs of sending a parcel by the Express service and by the Rapid service.

Type of service	Cost
Express	£15.25
Rapid	£35.38

Brendan has to send 12 parcels.
It will be cheaper to send the parcels by the Express service than by the Rapid service.

(a) How much cheaper?

£..

(3)

Luke wants to send 21 parcels by the Express service.

He does the calculation 20 × £15 = £300 to estimate the cost.

(b) Explain why Luke's calculation shows the actual cost will be more than £300

....

....

....

(1)

(Total for Question 11 is 4 marks)

11 The table shows a cricket club's income in 2016 from a fete, a quiz and membership fees.

		Income
Fete		£250
Quiz	Entry fees Refreshments	13 at £5 each £35
Membership fees		25 at £20 each

Express as a ratio

the income from the fete to the income from the quiz to the income from membership fees.

Give your ratio in its simplest form.

....

(Total for Question 11 is 3 marks)

12 Rehan is on holiday in the USA.

He has $200 to spend on clothes.

Rehan buys
          1 pair of trainers costing $60
          3 T-shirts costing $25 each.

He also wants to buy a jacket costing $80

(a) Has Rehan got enough money to buy the jacket?
    You must show how you get your answer.

(3)

The trainers cost $60
The exchange rate is $1 = £0.749

Rehan says,
        "The trainers cost less than £40"

Rehan is wrong.

(b) Using a suitable approximation, show working to explain why.

(2)

13 Ellie makes hats.
  She makes at least 17 hats per hour.
  She is paid 46p for each hat she makes.

  Reaze is a waiter.
  He works 35 hours and is paid a total of £266

  Show that Ellie's hourly rate of pay is more than Reaze's hourly rate of pay.

(Total for Question 13 is 3 marks)

14 3 kg of carrots cost £1.80
2 kg of carrots and 5 kg of potatoes cost a total of £3.45

Work out the total cost of 4 kg of carrots and 2 kg of potatoes.
You must show all your working.

£..

(Total for Question 14 is 4 marks)

15 2.5 kg of onions and 2 kg of carrots cost a total of £2.36
3 kg of carrots cost £1.74

Stuart has £2
He wants to buy 4 kg of onions.

Does Stuart have enough money to buy 4 kg of onions?
You must show how you get your answer.

(Total for Question 15 is 5 marks)

16 Sam buys 20 boxes of oranges.
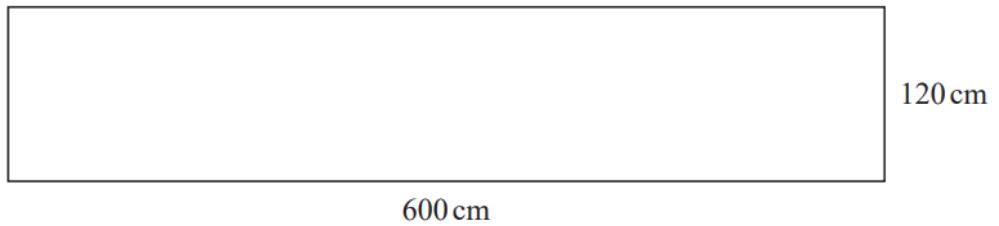There are 25 oranges in each box.

Each boxes of oranges costs £7

Sam sells $\frac{2}{5}$ of the oranges he bought.

He sells each of these oranges for 40p.

He then sells each of the remaining oranges at 3 oranges for 50p.

Did Sam make a profit or did Sam make a loss?
You must show working to justify your answer.

(Total for Question 16 is 5 marks)

18 The diagram shows a rectangular garden path.

120 cm

600 cm

Wasim is going to cover the path with paving stones.
Each paving stone is a square of side 30 cm.
Each paving stone costs £2.50

Wasim has £220 to spend on paving stones.

Show that he has enough money to buy all the paving stones he needs.

(Total for Question 18 is 4 marks)

19 Nimra buys a 3 kg box of sweets for £17.60

She puts the sweets into bags to sell.
Each bag contains 150 g of sweets.

Nimra fills as many bags as possible.
She will sell each bag for the same price.

Nimra wants to make a profit of at least 35%

Assuming she sells all the bags,
what is the lowest price Nimra should charge for each bag?

£...

(Total for Question 19 is 5 marks)

19 A shop sells milk in 1 pint bottles and in 2 pint bottles.

Each 1 pint bottle of milk costs 52p.
Each 2 pint bottle of milk costs 93p.

Martin has **no** milk.

He assumes that he uses, on average, $\frac{3}{4}$ of a pint of milk each day.

Martin wants to buy enough milk to last for 7 days.

(a) Work out the smallest amount of money Martin needs to spend on milk.
You must show all your working.

£...

(3)

Martin actually uses more than $\frac{3}{4}$ of a pint of milk each day.

(b) Explain how this might affect the amount of money he needs to spend on milk.

....

....

....

....

(1)

(Total for Question 19 is 4 marks)

19 Boxes of chocolates cost £3.69 each.
A shop has an offer.

> Boxes of chocolates
>
> 3 for the price of 2

Ali has £50
He is going to get as many boxes of chocolates as possible.

How many boxes of chocolates can Ali get?

....

(Total for Question 19 is 3 marks)

20 Pens and pencils are sold in a shop.

12 pencils cost £1.80

The ratio of the cost of a pen to the cost of a pencil is 7 : 3

Work out the cost of 5 pens.

£...
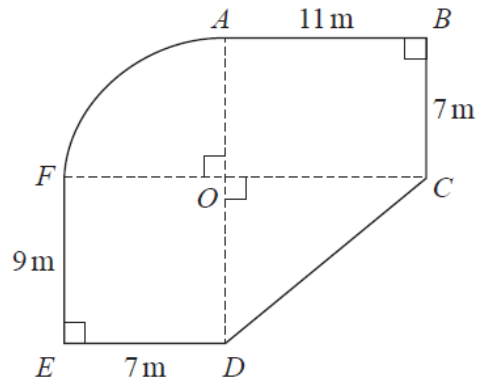
　　　　(Total for Question 20 is 4 marks)

21 The diagram shows a plan of Jason's garden.

ABCO and *DEFO* are rectangles.
CDO is a right-angled triangle.
AFO is a sector of a circle with centre *O* and angle *AOF* = 90°

Jason is going to cover his garden with grass seed.
Each bag of grass seed covers $14 \, m^2$ of garden.
Each bag of grass seed costs £10.95

Work out how much it will cost Jason to buy all the bags of grass seed he needs.

£...

(Total for Question 21 is 5 marks)

22 Natalie makes potato cakes in a restaurant.

She mixes potato, cheese and onion so that

$$\text{weight of potato} : \text{weight of cheese} : \text{weight of onion} = 9 : 2 : 1$$

Natalie needs to make 6000 g of potato cakes.

Cheese costs £2.25 for 175 g.

Work out the cost of the cheese needed to make 6000 g of potato cakes.

£...

(Total for Question 22 is 4 marks)

24 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 24 is 3 marks)