

- 1 A drink is made by adding water to juice.

Instructions

Add an amount of water that is between 2 times and 3 times the amount of juice

Rana has 120 ml of juice.

She adds some water.

She has now made 450 ml of the drink.

Has Rana followed the instructions?

You **must** show your working.

[3 marks]

2

George buys some food for £16.55
He pays the exact amount with two notes and four coins.
List the notes and coins.

[2 marks]

Notes

Coins

3 The cost of 5 kg of potatoes is £3.20

The cost of $\frac{1}{2}$ kg of carrots is 29p

Work out the **total** cost of 12 kg of potatoes and $1\frac{1}{2}$ kg of carrots.

[3 marks]

Answer £ _____

[4 marks]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Answer _____ pence

Answer _____

6

Annie spends these amounts in four shops using £20 notes, £10 notes and £5 notes.

Shop A	£65
Shop B	£40
Shop C	£115
Shop D	£75

In each shop she
pays the exact amount
uses the **smallest** possible number of notes.

Work out the total number of each note she uses.

[3 marks]

Number of £20 notes _____

Number of £10 notes _____

Number of £5 notes _____

7

Harry and his sister Jess have some money in the ratio Harry : Jess = 1 : 4
Harry has £7.35
They pay £16.99 for a present for a friend.

Harry uses $\frac{1}{3}$ of his money.

Jess pays the rest.

How much money does Jess have left?

[4 marks]

Answer £ _____

B Lynn works as a bus driver.
She is paid £10.80 per hour for the first 38 hours she works each week.
She is paid 25% **more** per hour for each extra hour she works.

One week, Lynn was paid £491.40

In total, how many hours did she work that week?

You **must** show your working.

[5 marks]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Answer _____ hours

- 9 Boxes of chocolates each contain 25 chocolates.
One box costs £3.25
A shop has a special offer.

Two boxes for £5

How much cheaper **per chocolate** is the special offer?

[3 marks]

Answer _____ pence

10

A machine takes 4 seconds to fill a packet of crisps.

10 (a)

In total, how many packets can 35 of these machines fill in 8 hours?

[4 marks]

Answer _____

10 (b)

Each packet of crisps contains 32.5 grams of crisps.

At what rate does a machine put the crisps into the packets?

Give your answer in grams per second.

[2 marks]

Answer _____ grams per second

11

	Cost of 100 grams
Cereal	49p
Pasta	14p

Leah buys 400 grams of cereal and 250 grams of pasta.

Work out the **total** cost in £

[4 marks]

Answer £ _____

12 Companies A and B sell insurance for mobile phones.
The table shows the **monthly** costs for two types of cover, Damage and Loss.

Company	Damage	Loss
A	£8.65	£12.20
B	£7.25	£14.10

12 (a) Work out the difference in monthly cost for the two types of cover with **Company A**.
[2 marks]

Answer £ _____

12 (b) Ben wants Damage cover with **Company B**.
How much in total will he pay for one **year**?

[3 marks]

Answer £ _____

13 A machine to clean carpets can be hired.

Machine hire £25 per day	Cleaning fluid 1-litre bottle £10 2-litre bottle £18
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Rana wants to
 hire the machine for 1 day
 and
 buy 5 litres of cleaning fluid.

Work out the **smallest** total amount she could pay. [3 marks]

Answer £ _____

14 (a) Ali revises each day for five days.

On each of the first **four** days he revises from 5 pm to 8 pm

On the fifth day he starts revising at 1 pm

He finishes when he has revised for a **total** of 18 hours for the five days.

What time does he finish on the fifth day?

[3 marks]

Answer _____

14 (b) Sofia is revising for Maths.

She tries to work out $3 \times (4 + 2)$

Here is her working.

$$\begin{aligned} 3 \times (4 + 2) &= 12 + 3 \\ &= 15 \end{aligned}$$

What mistake has she made?

[1 mark]

- 15** Pens cost 20p each.
Rulers cost 60p each.
Saj buys some pens and some rulers.
He buys 8 rulers.
The total cost is £10
How many pens does he buy?

[3 marks]

Answer _____

16 In this question use 1 litre = 1000 millilitres
A mixture is made using white paint and red paint.

amount of white paint = amount of red paint ÷ 7

5.6 litres of red paint will make **more** than 6 litres of the **mixture**.

How much more?

Give your answer in millilitres.

[4 marks]

Answer _____ ml

17

An empty container is a cylinder of radius 3.5 cm and height 40 cm

A tennis ball is a sphere of radius 3.5 cm

Will six of the tennis balls fit in the container?

Tick a box.

Yes

☐

No

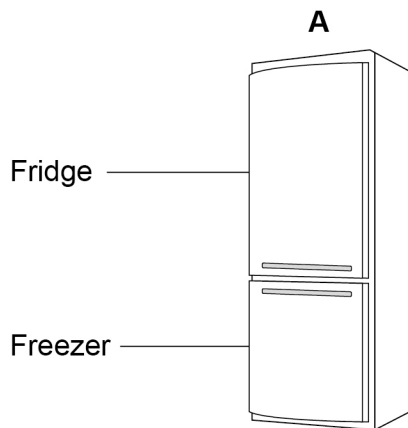
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Show working to support your answer.

[2 marks]

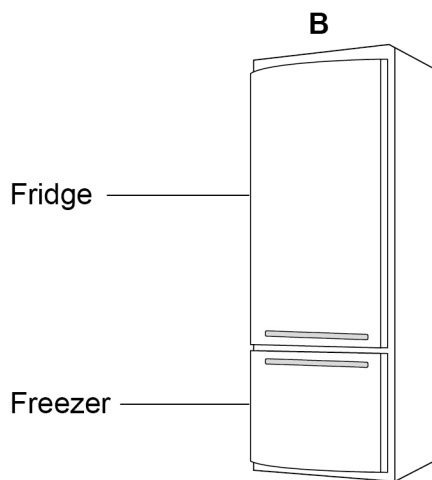
18

Information about two fridge-freezers, A and B, is shown.



Total capacity is 330 litres

fridge capacity : freezer capacity = 3 : 2



Fridge capacity is 294 litres

fridge capacity : freezer capacity = 7 : 3

Grace buys one of these fridge-freezers.
She buys the one with the greater **freezer** capacity.
Which one does she buy?
You **must** show your working.

[4 marks]

Answer _____

19 At a shop

the normal price of one pen is 24p

the normal price of one calculator is £7

The shop has these special offers.

Pens

Half the normal price

Calculators

£1.50 less than the normal price

Work out the **total** price of 5 pens and 1 calculator using the special offers.**[4 marks]**

Answer £ _____

20

Jess saves 2p, 5p and 10p coins.

She has

- 45 10p coins
- 8 times as many 2p coins as **10p coins**
- £17.70 in total.

Work out total **value** of 2p coins : total **value** of 5p coins

Give your answer in its simplest form.

[4 marks]

Answer _____ :

21

A reel holds 9.5 metres of ribbon.

2 pieces of ribbon are cut from the reel.

Each piece is 20 centimetres long.

What length of ribbon is left on the reel?

State the units of your answer.

[3 marks]

Answer _____

22 This week, Liam works
 25 hours at £10.20 per hour
 and
 extra hours at the weekend at £11.80 per hour.

Here are the extra hours he works at the weekend.

Saturday	7 am to 10 am
Sunday	1 pm to 3 pm

In **total**, how much is he paid this week? [4 marks]

Answer £ _____

23

Jing has £2450

She saves some and gives the rest to her four brothers.

money saved : money given to brothers = 2 : 5

She gives each of her **four** brothers the **same** amount.

Does each brother receive more than £430 ?

You **must** show your working.**[4 marks]**

- 24 (a)** The shop also sells folders for £3.20 each.
The shop has this offer.

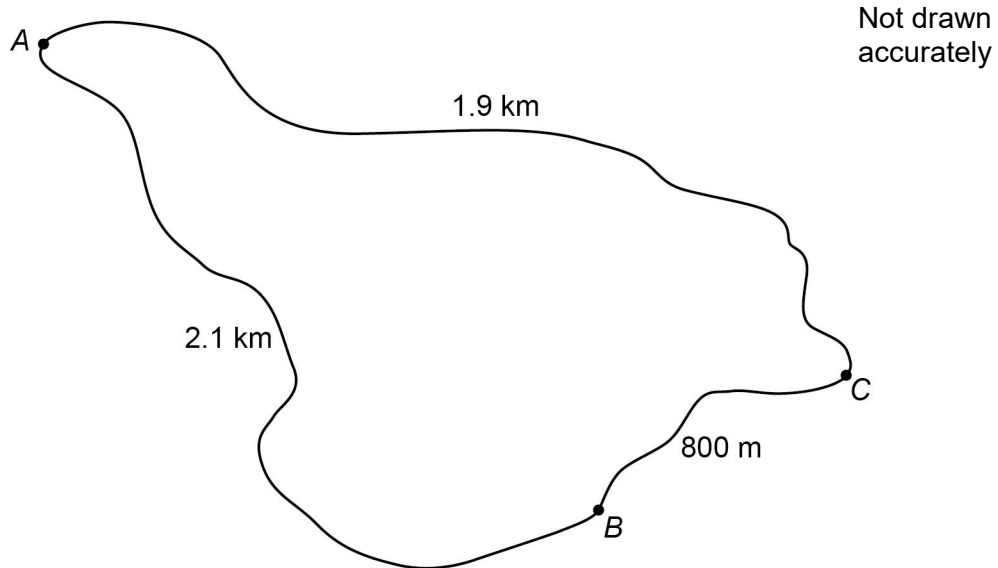


Work out the cost of 4 folders using the offer.

[3 marks]

Answer £ _____

- 25 (a) A , B and C are connected by paths.
The length of each path is shown.



Nathan and Sue each walk from A to B .

Nathan walks along the path $A \rightarrow B$

Sue walks along the paths $A \rightarrow C \rightarrow B$

How much **further** does Sue walk than Nathan?

Give your answer in kilometres.

[3 marks]

Answer _____ km

26

Hamish has saved 295 coins.

Each one is a 20p coin.

He gives an equal number of 20p coins to each of his 8 grandchildren.

He gives them as many coins as possible.

How much, in £, does he have left?

[4 marks]

Answer £ _____

27 A football team plays two matches.

27 (a) For the first match, 40 000 tickets are sold.

Assume that each ticket costs £38.50

Work out the total amount of money from ticket sales for this match.

[2 marks]

Answer £ _____

27 (b) In fact, for the first match,
some of the tickets cost less than £38.50
and
some of the tickets cost more than £38.50

What does this mean about the total amount of money from ticket sales for this match?

Tick **one** box.

[1 mark]

☐

It will be more than the answer to part (a)

☐

It will be the same as the answer to part (a)

☐

It will be less than the answer to part (a)

☐

It is not possible to tell

17 (c) For the second match, the number of tickets sold increases from 40 000 to 55 000

Is the increase in tickets sold **more** than 35% ?

You **must** show your working.

[3 marks]

28 A tank contains 40 litres of water.

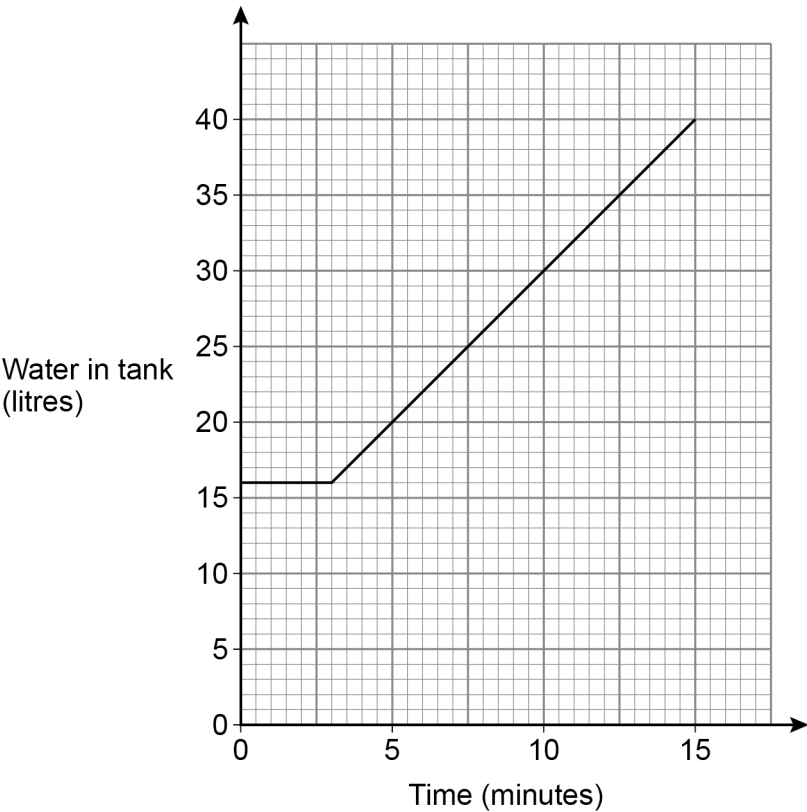
28 (a) Water leaks out of the tank at a rate of 1.2 litres per minute.

The leak is stopped after 20 minutes.

Show that, when the leak is stopped, the tank contains 16 litres of water.

[1 mark]

28 (b) The tank is refilled with water from a tap.
The graph shows the amount of water in the tank **after** the leak is stopped.



Complete this report by writing a number in each answer space. [3 marks]

Report

_____ minutes after the leak is stopped, the tap starts to refill the tank.

The rate at which the tank refills is _____ litres per minute.

[4 marks]

[illegible]

30 (a) At the restaurant, dough balls can be ordered in small portions and large portions.

Small portion 6 dough balls	Large portion 10 dough balls
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A group of people want to order **exactly** 44 dough balls.

Show how they can do this.

[2 marks]

Number of Small portions _____

Number of Large portions _____

Apples	25p each
Oranges	60p each

[4 marks]

Answer

- 32 (a)** Leema buys 2 metres of linen at £8.50 per metre.
She also buys 5 metres of cotton.
The **total** cost is £38

What is the cost of **one** metre of cotton?

[4 marks]

Answer £ _____

- 32 (b)** Buttons cost 65p each.
The greatest number of buttons Leema can buy with £5 is 7
She says,

“The greatest number of buttons I can buy with £10 is 14 because £10 is double £5”

Is she correct?

Tick a box.

Yes

☐

No

☐

Show working to support your answer.

[2 marks]

33

- A pack of pegs costs 40p
- A bar of soap costs £2.20
- A basket costs £7

Dan buys **two** packs of pegs, **one** bar of soap and **one** basket.

What fraction of the total cost is the cost of the basket?

[3 marks]

Answer _____

Kay hires a digger.

- £24.50 for the first 5 days
- reduced by 20% for day 6
- the same as day 6 for day 7 onwards.

For how many days did Kay hire the digger?

[5 marks]

Answer

35

Town A has
a population of 84 000
an area of 7 **square miles**.

Town B has a population density of 4695 people per **square kilometre**.

$$\text{Population density} = \frac{\text{population}}{\text{area}}$$

Which town has the greater population density?

Use 1 square mile = 2.6 square kilometres

Tick a box.

Town A

☐

Town B

☐

Show working to support your answer.

[3 marks]