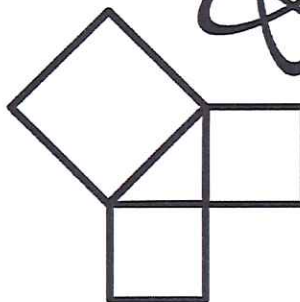
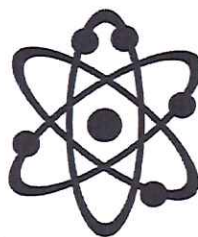
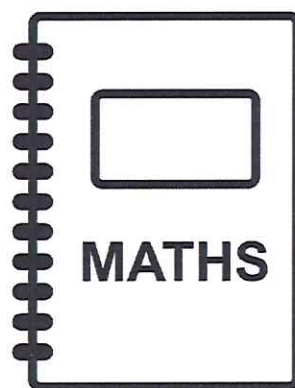
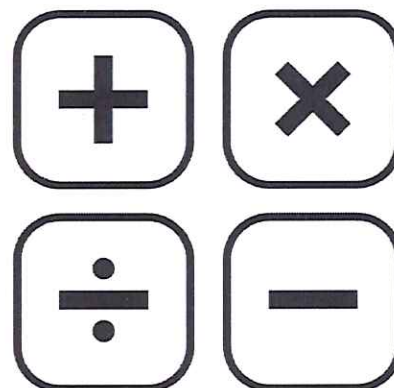
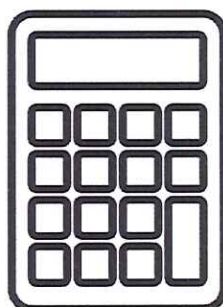
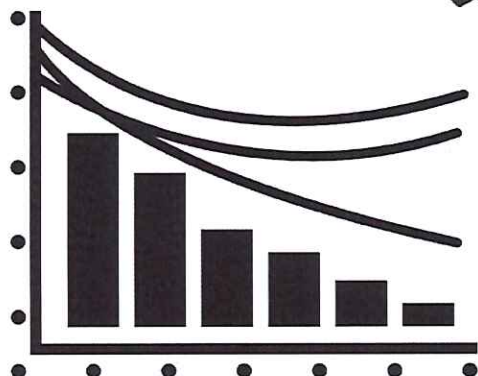
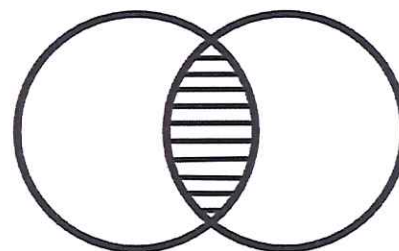
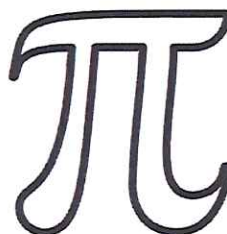
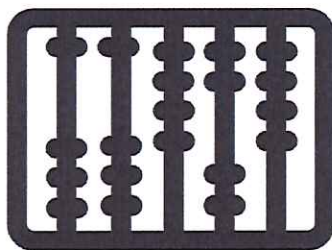
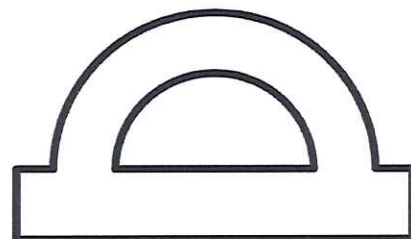


GCSE TOPIC BOOKLET MONEY



$$a^2 = b^2 + c^2$$



1.

Nick works on a building site.
His normal working week is 45 hours.
He is paid £23.56 per hour.
When he works for more than 45 hours, he is paid a higher amount for each extra hour.
One week he worked 56 hours and was paid a total of £1443.
Work out the amount he is paid for each extra hour.
You must show all your working.

[6]

$$\text{Normal pay} = 45 \times £23.56$$

$$= £1060.20$$

$$\text{Overtime pay} = £1443 - £1060.20$$

$$= £382.80$$

$$\text{Overtime hours} = 56 - 45$$

$$= 11 \text{ hours}$$

$$\text{Overtime rate} = £382.80 \div 11$$

$$= £34.80$$

2.

Beth has only 20p and 10p coins in her purse.

She has three times as many 20p coins as 10p coins.

If Beth has £2.80 altogether, how many 20p coins does she have?

[3]

$$\text{For every } 3 \times 20p \text{ Beth has } 1 \times 10p = 70p$$

$$\text{Strategy:- see how many } 70p \text{ in } £2.80$$

$$£2.80 \div 70p = 4$$

$$\therefore 4 \times 3 \times 20p = 12 \times 20p$$

$$\underline{12} \text{ twenty pence coins}$$

3.

Mia collects 50p, 20p, 10p and 5p coins in a savings jar.



She counts that she has collected a total of £21.35. She has 22 fifty pence coins, 32 twenty pence coins, 18 ten pence coins and some five pence coins.

How many five pence coins has she collected?

[4]

$$22 \times 50p = \underline{\pounds 11}$$

$$32 \times 20p = \underline{\pounds 6.40}$$

$$18 \times 10p = \underline{\pounds 1.80}$$

$$\pounds 11 + \pounds 6.40 + \pounds 1.80 = \underline{\pounds 19.20}$$

$$\therefore 5ps \text{ must total } \pounds 21.35 - \pounds 19.20 = \underline{\pounds 2.15}$$

$$215p \div 5p = \underline{43} \text{ five pence coins}$$

4.

Caleb has these coins.



68p

Manon has these coins.



54p

Caleb gives Manon some coins so that they each have the same amount of money.

Which coins does Caleb give to Manon?

[2]

$$68p - 54p = \underline{14p}$$

To have the same Caleb must give 7p

could give the 5p and the 2p

5.

Builders use cement and sand to make mortar when building walls. They estimate how much material they need to order before they start to work.

One useful estimation they use is shown below.

For every 1m^2 of wall:	cement required = 15.5 kg, sand required = 56 kg.
----------------------------------	--

Hasan is building a wall 25 metres long and 2 metres high.
He buys cement in 25 kg bags costing £4.87 per bag.
He buys sand in 40 kg bags costing £2.65 per bag.

Calculate the total cost of the cement and sand required.
You must show all your working.

[9]

$$\text{Area of wall} = L \times W = 25 \times 2 = 50\text{m}^2$$

$$\text{Cement needed} = 50 \times 15.5 = 775\text{ kg}$$

$$\text{Number of bags} = 775 \div 25 = 31\text{ bags}$$

$$\text{Cost of cement} = 31 \times £4.87 = £150.97$$

$$\text{Sand needed} = 56 \times 50 = 2800\text{ kg}$$

$$\text{Number of bags} = 2800 \div 40 = 70\text{ bags}$$

$$\text{Cost of sand} = £2.65 \times 70 = £185.50$$

$$\text{Total cost} = £185.50 + £150.97$$

$$= £336.47$$

6.

Olga wants to paint one side of a garden wall.
The wall is 2 metres high and 35 metres long.

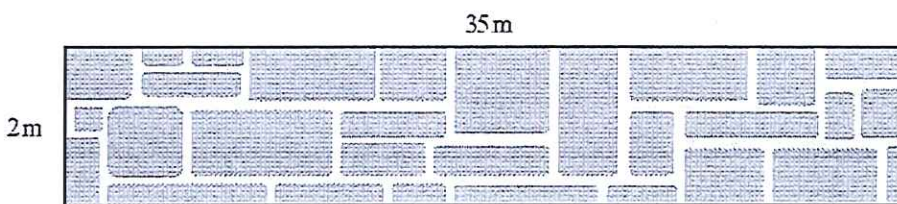


Diagram not drawn to scale

She has found the following information about the special paint that she needs.

- It is only sold in 5 litre and 2 litre tins
- One litre is enough to cover an area of 6m^2
- The tins are sold at a price of
 - £12 for a 5 litre tin
 - £6 for a 2 litre tin

Showing all your calculations, find the least amount she has to pay for enough paint to cover the wall.

$$\text{Area of wall} = L \times W = 35 \times 2 = 70\text{m}^2$$

$$\text{Number of litres needed} = 70 \div 6 = 11.66 \\ = 12 \text{ litres}$$

$$\text{If bought } 6 \times 2 \text{ litres} = 6 \times £6 = £36$$

$$\text{If bought } 3 \times 5 \text{ litres} = 3 \times £12 = £36$$

$$\text{Best buy} = 2 \times 5 \text{ litres} + 1 \times 2 \text{ litre} \\ = 2 \times £12 + 1 \times £6 \\ = £30$$

[6]

7.

Jamie was buying fireworks for a bonfire party.

(a) Complete his bill.

[3]

Items	Cost
2 "Shining Star" rocket selection packs at £24.99 each	£ 49.98
5 packs of sparklers at 89 pence per pack	£ 4.45
1 "Fantastic Fireworks" selection box	£ 34
Total	£88.43

(b)



When Jamie was in the shop buying fireworks, he noticed the special deal shown above. He wanted to get a free Roman Candle.

He decided to buy some extra fireworks that cost £4 each.

What was the least number of these fireworks he needed to buy to get a free Roman Candle? [2]

$$£100 - £88.43 = £11.57$$

Needs to spend £11.57

∴ If he buys 3 (extra fireworks)

that will be £12 which qualifies Jamie for the offer.

8.

You will be assessed on the quality of your written communication in this question.

Elinor plans to sell cups of juice at a disco.

She buys 8 bottles of juice.

Each bottle holds 3 litres and costs £3.65 per bottle.

The total cost of the plastic cups she uses is £2.50.

Each plastic cup is filled with 250ml of juice and is sold for 75p.

Elinor sells all the juice that she has bought.

How much profit does she make?

[7]

$$\text{Total amount of juice} = 8 \times 3 \text{ litres}$$

$$= 24 \text{ litres}$$

$$= 24 \times 1000 = 24,000 \text{ ml}$$

$$\text{Number of cups sold} = 24000 \div 250 = 96 \text{ cups}$$

$$\text{Total costs} = £3.65 \times 8 + £2.50 = £31.70$$

$$\text{Total money in} = 96 \times 75 \text{ p} = 7200 \text{ p} = £72$$

$$\text{Profit} = £72 - £31.70 = £40.30$$

9.

You will be assessed on the quality of your written communication in this question.

Garry is arranging a birthday party for his grandmother at a local hotel.
Sixty people will be there, and half of them will be young children.

The hotel will provide food at a charge of £12 per portion.

To decide how many portions to order, Garry allows one portion of food for each adult and half a portion for each child.

To be sure there is enough food available; he then rounds up the total number of portions required to the nearest 10.

How many portions did Garry order and what was the total cost?
You must show all your working.

[7]

60 people

30 children, 30 adults

30 full portions (adults)

30 half portions = 15 portions (children)

Total portions = $30 + 15 = 45$

Garry rounds this up to 50 portions

$50 \times £12 = £600$

Garry orders 50 portions at a cost of £600

10.

Jacqui is planning a birthday party for her 8 year old daughter, Elan.

The party will be for 30 children, including Elan.
She decides that the party will be for 2 hours.

She finds out the following information about 3 party ideas.



Parties at Toots

£8 per head

Includes drinks, sausage and chips, sweets, ice skating and build a bear!

30 children or more, get $\frac{1}{10}$ off

2-Hour Pool Party

£140 for the session
Bring your own food
Room available free of charge

Bouncy Castle at the Hall

Bouncy Castle hire: £65
Community Hall Charge: £25 per hour
Bring your own food

For the places that do not provide food, Jacqui finds out that she can buy sausage, chips and a small drink for £1.50 per child.

- (a) Find the total cost of each party idea.
Show all your working.

[6]

$$\text{Parties at Toots} = \frac{9}{10} \times £8 \times 30 = £216$$

$$\text{2-Hour Pool Party} = 140 + 30 \times (£1.50) = £185$$

$$\text{Bouncy Castle at the Hall} = 65 + (2 \times 25) + (30 \times 1.50) = £160$$

- (b) What is the best option for Jacqui?
Give a reason for your answer.

[1]

You can choose any sensible option as long as you back it up with a reason.

Eg

- Toast is best as although it is a bit more expensive it is a lot less hassle
- Bouncy castle as it is the cheapest
- Pool party as it sounds the most fun