

Q1.

All tickets for a concert are the same price.

Amy and Dan pay £63 altogether for some tickets.

Amy pays £24.50 for 7 tickets.

How many tickets does Dan buy?

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Answer

(Total 4 marks)

Q2.

Mr Jones works for five days each week.

If he uses his car to travel to work,

each day he drives a total distance of 24.2 miles
his car travels 32.3 miles per gallon of petrol
petrol costs £1.27 per litre.

If he uses the bus to travel to work, he can buy a weekly ticket for £19.50

Use 1 gallon = 4.5 litres

Is it cheaper if he uses his car or the bus to travel to work?

You **must** show your working.

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Answer

(Total 5 marks)

Q3.

Josef runs 400 metres in 1 minute.

He assumes he can run any distance at the same rate.

He says,

“I would run 10 000 metres in 25 minutes.”

Tick a box to show whether his time to run 10 000 metres is likely to be accurate.

No, the time will be longer

Yes, the time will be 25 minutes

No, the time will be shorter

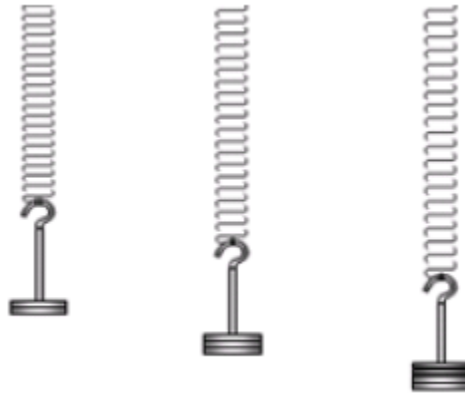
Give working and a reason to support your answer.

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(Total 2 marks)

Q4.

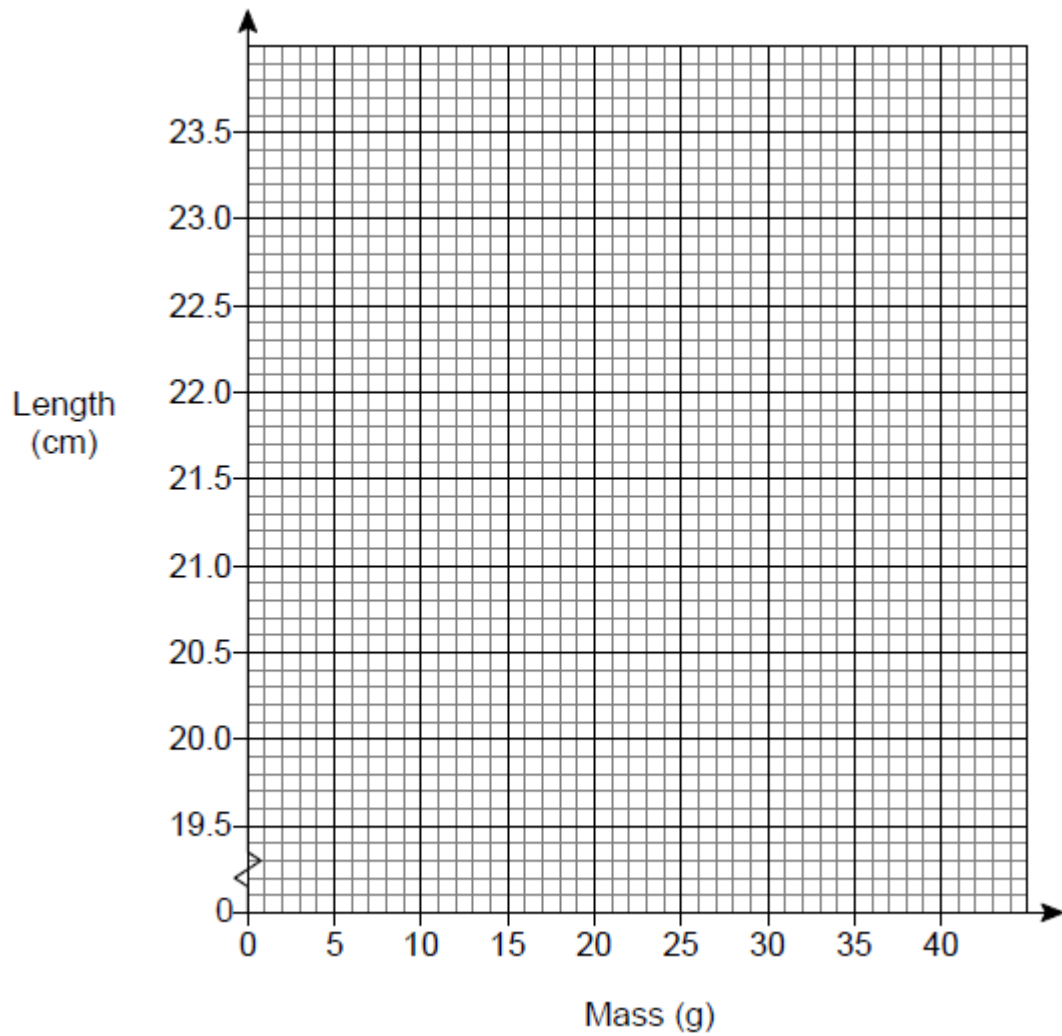
In an experiment, different masses are hung on a spring.



The length of the spring is measured for each mass.

Mass (g)	10	20	30	40
Length (cm)	20.8	21.6	22.4	23.2

(a) Draw a graph to show the length of the spring for masses from 10 g to 40 g



(2)

(b) Estimate the length of the spring with no mass hung on it.

Answer cm

(1)

(c) How much longer is the spring with a 35 g mass than with a 15 g mass?

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Answer cm

(2)

(Total 5 marks)

Q5.

The mass of 40 cm³ of copper is 356 grams.

Work out the mass of 90 cm³ of copper.

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Answergrams

(Total 2 marks)

Q6.

Here are two offers for batteries.

OFFER A
Pack of 4
£2.52
$\frac{1}{3}$ off

OFFER B
Pack of 5
£2.75
Pay for 3 packs get 1 free

Zak wants to buy 40 batteries.

Which is the cheaper offer?
You **must** show your working.

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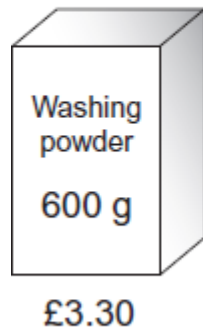
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Answer

(Total 5 marks)

Q7.

Washing powder is sold in two sizes, 600 grams and 1500 grams.



Which size is better value for money?
You **must** show your working.

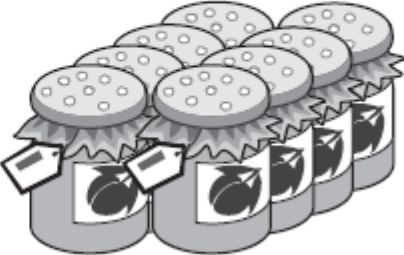
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Answer

(Total 6 marks)

Q8.(a)

Plum jam Recipe for 8 jars	
Caster Sugar	1.8 kg
Plums	1.2 kg
Water	160 ml
Lemon Juice	100 ml



Jayne wants to make **4 jars** of jam.

How many **grams** of plums does she need?

Answer grams

(1)

(b) Jayne has 860 grams of caster sugar.

How much **more** caster sugar will she need to make **4 jars** of jam?

State the units of your answer.

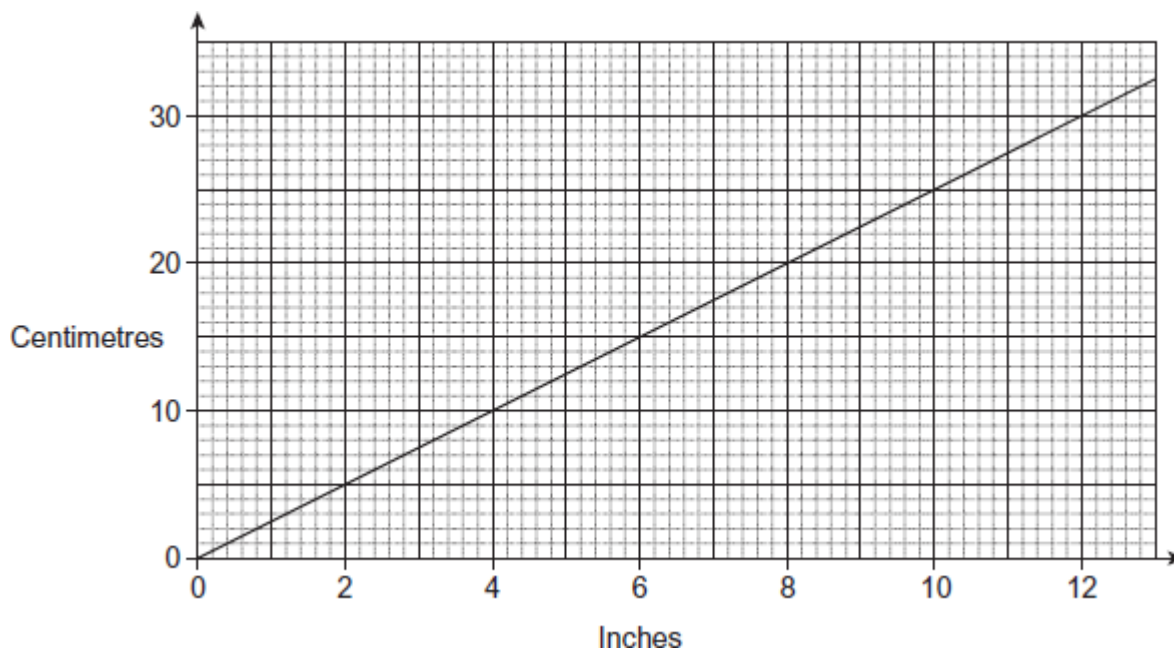
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Answer

(2)

(Total 3 marks)

Q9. Here is a conversion graph.



Shaz has 150 cm of material.
She needs 75 inches of material to make a skirt.

Does she have enough material?
You **must** show your working.

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(Total 3 marks)

Q10.(a) Here are four equations connecting y and x .
 k is a constant.

$$y = kx$$

$$y = \frac{k}{x}$$

$$y = kx^2$$

$$y = \frac{k}{x^2}$$

Match each equation to its statement.

y is **directly** proportional to x

Equation

y is **directly** proportional to x^2

Equation

y is **inversely** proportional to x

Equation

y is **inversely** proportional to x^2

Equation

(2)

(b) y is **inversely** proportional to x .

When $x = 3, y = 8$

Work out the value of y when $x = 5$

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Answer

(3)

(Total 5 marks)

Q11.(a) A pack of 8 batteries costs £5.99

How much does each battery cost?

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Answer pence

(2)

(b) A pack of 6 batteries of the same type costs £3.99

Is this better value?

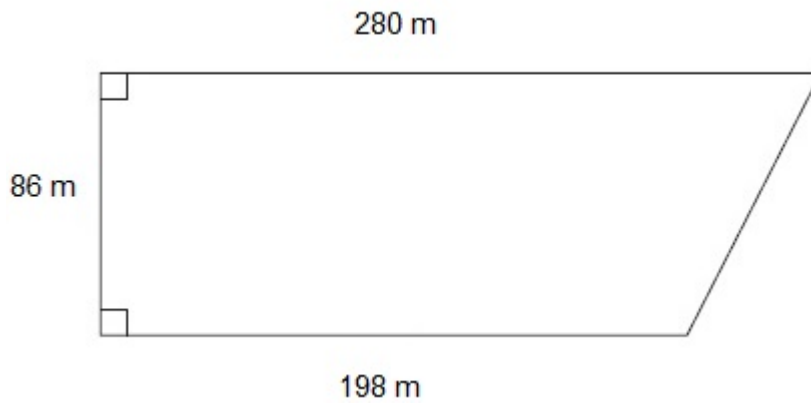
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(2)

(Total 4 marks)

Q12. The diagram shows a field.

Not drawn accurately



(a) Work out the area of the field.

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Answer m²

(2)

(b) 1 acre = 4047 square metres

A farmer keeps cows in the field.
He is allowed 7 cows per acre.

Work out the maximum number of cows he is allowed to put in the field.

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Answer

(4)
(Total 6 marks)

Q13. Here are some of the ingredients for a pie.

Minced lamb	450 g
Potatoes	900 g
Carrots	75 g
Stock	300 ml

Oliver has only 300 g of minced lamb.

How much of the other ingredients should he use?

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Answer Potatoes g
 Carrots g
 Stock ml

(Total 3 marks)