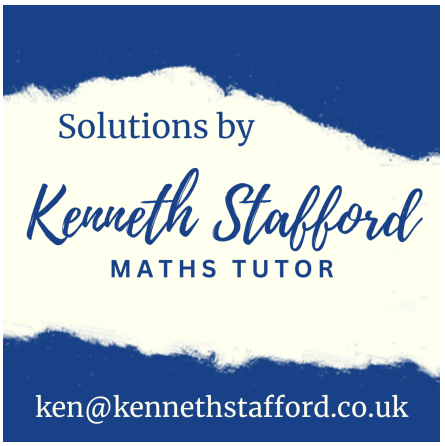
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GCSE (1 - 9)

Conversions and Units



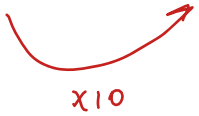


These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***Summer 2023*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk

Q	Paper where the question appeared	Q	Paper where the question appeared	Q	Paper where the question appeared
1	Edexcel, GCSE, Summer 2022, Paper 1F, Q1	22	Edexcel, GCSE, Summer 2019, Paper 3F, Q3	43	Edexcel, GCSE, November 2022, Paper 2F, Q27
2	Edexcel, GCSE, Summer 2022, Paper 2F, Q16	23	Edexcel, GCSE, Summer 2019, Paper 3F, Q22		
3	Edexcel, GCSE, Summer 2022, Paper 2F, Q24	24	Edexcel, GCSE, Autumn 2018, Paper 1F, Q12		
4	Edexcel, GCSE, Summer 2022, Paper 2F, Q27	25	Edexcel, GCSE, Autumn 2018, Paper 2F, Q3		
5	Edexcel, GCSE, Autumn 2021, Paper 2F, Q2	26	Edexcel, GCSE, Autumn 2018, Paper 2F, Q8		
6	Edexcel, GCSE, Autumn 2021, Paper 2F, Q14	27	Edexcel, GCSE, Autumn 2018, Paper 3F, Q7		
7	Edexcel, GCSE, Autumn 2021, Paper 3F, Q11	28	Edexcel, GCSE, Summer 2018, Paper 1F, Q21		
8	Edexcel, GCSE, Autumn 2021, Paper 3F, Q18	29	Edexcel, GCSE, Summer 2018, Paper 2F, Q5		
9	Edexcel, GCSE, Autumn 2021, Paper 3F, Q24	30	Edexcel, GCSE, Summer 2018, Paper 3F, Q9		
10	Edexcel, GCSE, Autumn 2020, Paper 1F, Q15	31	Edexcel, GCSE, Autumn 2017, Paper 1F, Q1		
11	Edexcel, GCSE, Autumn 2020, Paper 2F, Q9	32	Edexcel, GCSE, Autumn 2017, Paper 2F, Q4		
12	Edexcel, GCSE, Autumn 2020, Paper 3F, Q1	33	Edexcel, GCSE, Autumn 2017, Paper 3F, Q5		
13	Edexcel, GCSE, Autumn 2020, Paper 3F, Q18	34	Edexcel, GCSE, Autumn 2017, Paper 3F, Q16		
14	Edexcel, GCSE, Autumn 2019, Paper 1F, Q8	35	Edexcel, GCSE, Summer 2017, Paper 2F, Q11		
15	Edexcel, GCSE, Autumn 2019, Paper 2F, Q11	36	Edexcel, GCSE, Summer 2017, Paper 3F, Q9		
16	Edexcel, GCSE, Autumn 2019, Paper 2F, Q15	37	Edexcel, GCSE, Summer 2023, Paper 2F, Q3		
17	Edexcel, GCSE, Summer 2019, Paper 3F, Q5	38	Edexcel, GCSE, Summer 2023, Paper 2F, Q8		
18	Edexcel, GCSE, Summer 2019, Paper 1F, Q1	39	Edexcel, GCSE, Summer 2023, Paper 2F, Q10		
19	Edexcel, GCSE, Summer 2019, Paper 1F, Q13	40	Edexcel, GCSE, Summer 2023, Paper 3F, Q4		
20	Edexcel, GCSE, Summer 2019, Paper 2F, Q4	41	Edexcel, GCSE, November 2022, Paper 2F, Q4		
21	Edexcel, GCSE, Summer 2019, Paper 2F, Q23	42	Edexcel, GCSE, November 2022, Paper 2F, Q14		

1

Change 40 centimetres into millimetres.



400 millimetres

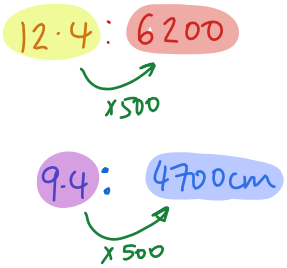
(Total for Question 1 is 1 mark)

[Edexcel, GCSE, Summer 2022, Paper 1F, Q1]

2

On a scale drawing, a building has length 12.4 cm and width 9.4 cm.
The real length of the building is 62 metres. = 6200 cm

Work out, in metres, the real width of the building.



47 metres

(Total for Question 16 is 3 marks)

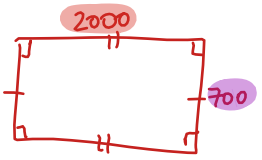
[Edexcel, GCSE, Summer 2022, Paper 2F, Q16]

3

Festival A will be in a rectangular field with an area of 80 000 m²
The greatest number of people allowed to attend Festival A is 425

Festival B will be in a rectangular field 700 m by 2000 m.
The greatest number of people allowed to attend Festival B is 6750

Area = 700 × 2000 = 1,400,000 m²



The area per person allowed for Festival B is greater than the area per person allowed for Festival A.

(a) How much greater?
Give your answer correct to the nearest whole number.

Festival A

80,000 m² = 425

÷425 ↓ ↓ ÷425

188·23 m² = 1

Festival B

1,400,000 m² = 6750 ÷6750

÷6750 ↓

207·41 m² = 1

207·41 − 188·23 = 19·18 m²

19 ..... m²

(4)

Callum says,

"300 cm² is the same as 3 m² because there are 100 cm in 1 m so you divide by 100"

Callum's method is wrong.

(b) Explain why.

1m² = 10,000cm²

.....

.....

3m² = 30,000cm²

.....

(1)

(Total for Question 24 is 5 marks)

[Edexcel, GCSE, Summer 2022, Paper 2F, Q24]

4

In Spain, Sam pays 27 euros for 18 litres of petrol.
In Wales, Leo pays £40.80 for 8 gallons of the same type of petrol.

1 euro = £0.85
4.5 litres = 1 gallon

Sam thinks that petrol is cheaper in Spain than in Wales.

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

Spain

€27 = 18 litres

×0.85

£22.95 = 18 litres

$1 \text{ litre} = \frac{22.95}{18}$

1 litre = £1.28

Wales

£40.80 = 8 gallons = 36 litres

×4.5

$1 \text{ litre} = \frac{40.80}{36}$

1 litre = £1.13

£1.28 > £1.13

No. Petrol is cheaper in Wales than Spain.

(Total for Question 27 is 4 marks)

[Edexcel, GCSE, Summer 2022, Paper 2F, Q27]

5

Change 3 metres into centimetres.

x 100

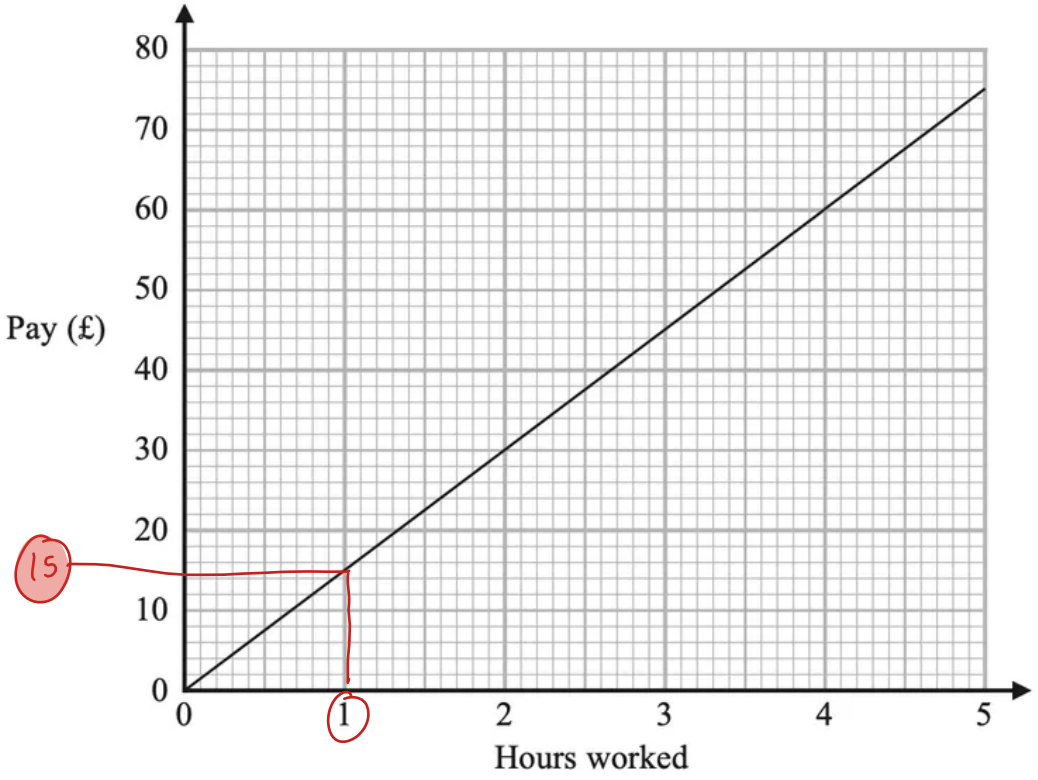
3 x 100 = 300 ..... centimetres

(Total for Question 2 is 1 mark)

[Edexcel, GCSE, Autumn 2021, Paper 2F, Q2]

6

Nazima uses this graph to find out how much money she is paid for the number of hours she has worked.



(a) How much money is Nazima paid for each hour she works?

£ 15

(1)

Last week Nazima worked for 36 hours.

(b) How much money was Nazima paid?

36 x 15 = 540

£ .....

(2)

(Total for Question 14 is 3 marks)

[Edexcel, GCSE, Autumn 2021, Paper 2F, Q14]

7

(a) Write 196 minutes in hours and minutes.

60 minutes = 1 hour
120 minutes = 2 hours
180 minutes = 3 hours
196 minutes = 3 hours 16 minutes

3 hours 16 minutes

(2)

A train travels x miles in 2 hours.

(b) Write down an expression, in terms of x, for the average speed of the train.

$\frac{x}{2}$ miles per hour

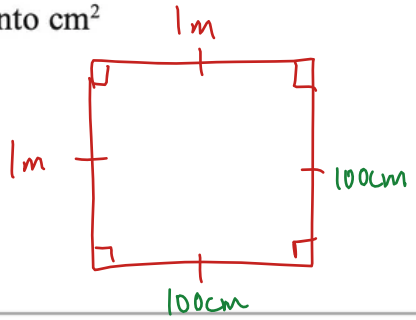
(1)

(Total for Question 11 is 3 marks)

[Edexcel, GCSE, Autumn 2021, Paper 3F, Q11]

8

Change 1 m^2 into cm^2



$1m \times 1m = 1m^2$

$100cm \times 100cm = 10,000cm^2$

10,000 cm^2

(Total for Question 18 is 1 mark)

[Edexcel, GCSE, Autumn 2021, Paper 3F, Q18]

9

A water tank is empty.
Anil needs to fill the tank with 2400 litres of water.

Company **A** supplies water at a rate of 8 litres in 1 minute 40 seconds. = 100 seconds
Company **B** supplies water at a rate of 2.2 gallons per minute.

1 gallon = 4.54 litres

Company **A** would take more time to fill the tank than Company **B** would take to fill the tank.

How much more time?
Give your answer in minutes correct to the nearest minute.

Company A

8 litres = 100 seconds

x300 ↓ ↓ x300

2400 litres = 30,000 seconds

÷60 ↓

2400 litres = 500 minutes

Company B

x4·54 ↓ 2·2 gallons = 1 minute

9·988 litres = 1 minute

x240·3 ↓ ↓ x240·3

2400 litres = 240·3 minutes

500 − 240 = 260 minutes

(Total for Question 24 is 4 marks)

[Edexcel, GCSE, Autumn 2021, Paper 3F, Q24]

10

Jamil makes a drink by mixing

1 part of orange squash with 9 parts of water.

He uses 750 millilitres of orange squash.

Jamil is going to put the drink he has mixed into 1 litre bottles.

Work out the greatest number of 1 litre bottles that Jamil can completely fill.

Squash : Water

1 : 9 ×750

×750 750mL : 6750mL ÷1000

÷1000 0.75 L : 6.75 L (Total = 0.75 + 6.75 = 7.5 litres)

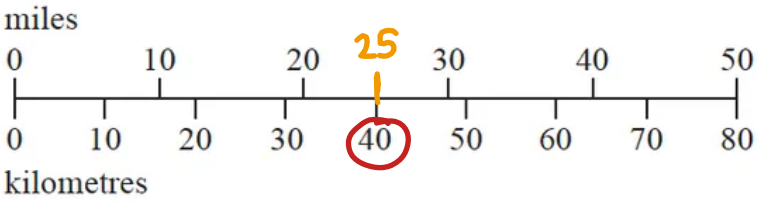
7

(Total for Question 15 is 3 marks)

[Edexcel, GCSE, Autumn 2020, Paper 1F, Q15]

11

This scale can be used to change between kilometres and miles.



(a) Use the scale to change 40 kilometres to miles.

25 miles

(1)

Here is an approximate rule to change from kilometres to miles.

Divide the distance in kilometres by 10 and then multiply by 6

(b) Use this approximate rule to change 40 kilometres to miles.

40 ÷ 10 = 4

4 x 6 = 24

24 miles

(2)

(c) Compare your answer to part (b) with your answer to part (a).

There is a 1 km difference.

(1)

(Total for Question 9 is 4 marks)

[Edexcel, GCSE, Autumn 2020, Paper 2F, Q9]

12

Change 300 centimetres into metres.

300 ÷ 100 = 3

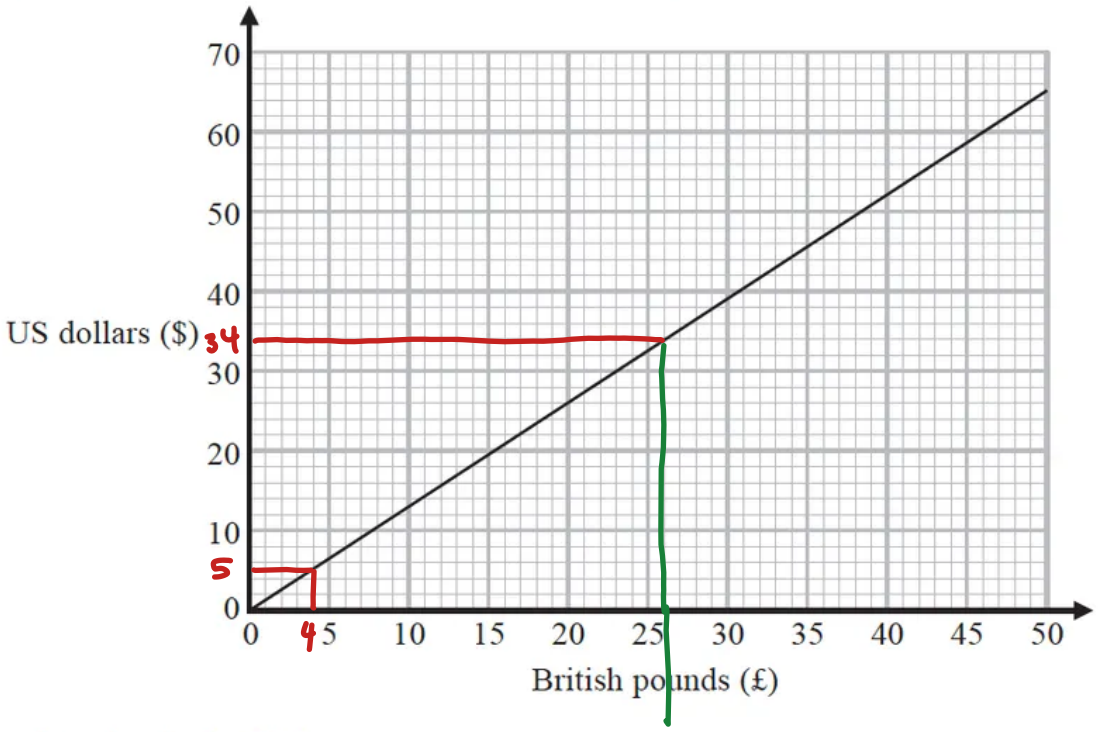
..... metres

(Total for Question 1 is 1 mark)

[Edexcel, GCSE, Autumn 2020, Paper 3F, Q1]

13

This graph can be used to change between US dollars ($) and British pounds (£).



Rosie bought a ring in the USA.
She paid 345 US dollars.

Work out in pounds the amount Rosie paid for the ring.

$34 = £26

$340 = £260

$5 = £ 4

$345 = £264

£258 to £275 accepted

£ 264

(Total for Question 18 is 3 marks)

[Edexcel, GCSE, Autumn 2020, Paper 3F, Q18]

14

Prasha has five blocks of wood.

The total weight of all five blocks of wood is 3 kilograms.
4 of the blocks of wood each have a weight of 650 grams.

Work out the weight, in grams, of the other block of wood.

5 blocks = 3kg = 3000g

4 x 650 = 2600

3000 − 2600 = 400

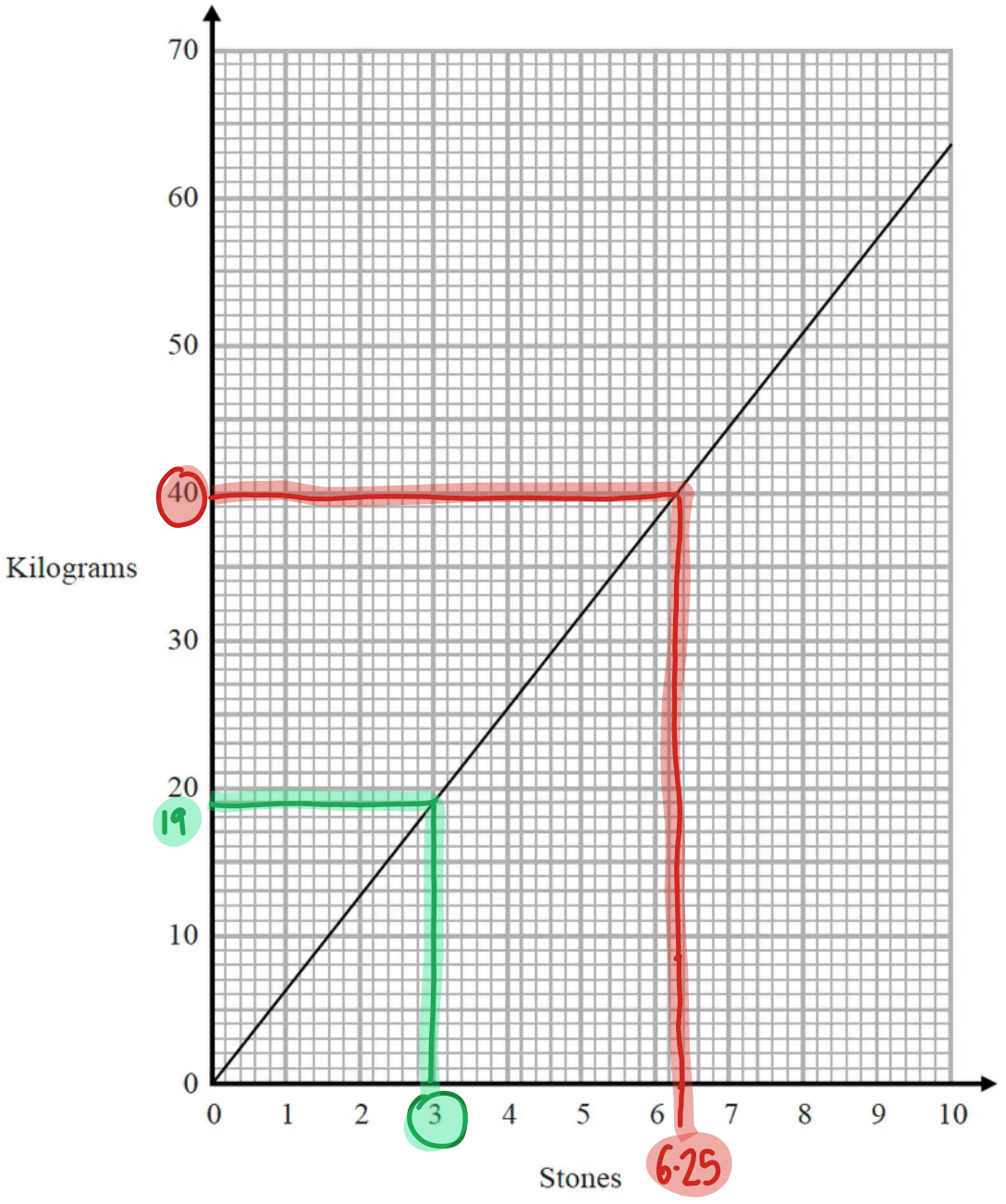
..... grams

(Total for Question 8 is 3 marks)

[Edexcel, GCSE, Autumn 2019, Paper 1F, Q18]

15

You can use this graph to change between stones and kilograms.



(a) Change 3 stones to kilograms.

19 kilograms

(1)

(b) Change 80 kilograms to stones.

40kg = 6·25

80kg = 12·5

12·5 stones

(2)

(Total for Question 11 is 3 marks)

[Edexcel, GCSE, Autumn 2019, Paper 2F, Q11]

16

The length of a plane is 19.2 metres. x 100 → 1920 cm

Lukas buys a scale model of the plane.
The scale of the model is 1 : 24

Work out the length of the scale model of the plane.
Give your answer in centimetres.

1920 ÷ 24 = 80

80 centimetres

(Total for Question 15 is 3 marks)

[Edexcel, GCSE, Autumn 2019, Paper 2F, Q15]

17

Change 4 kilometres into metres.

4 x 1000 = 4000 metres

(Total for Question 5 is 1 mark)

[Edexcel, GCSE, Summer 2019, Paper 3F, Q5]

18

Write 180 minutes in hours.

180 ÷ 60 = 3 hours

(Total for Question 1 is 1 mark)

[Edexcel, GCSE, Summer 2019, Paper 1F, Q1]

19

The length of a line is x centimetres.

Write down an expression, in terms of x, for the length of the line in millimetres.

1cm = 10mm

10x

(Total for Question 13 is 1 mark)

[Edexcel, GCSE, Summer 2019, Paper 1F, Q13]

20

Change 1756 grams to kilograms.

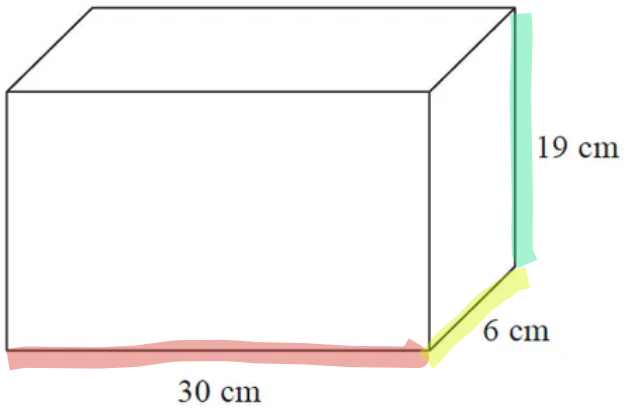
1756 ÷ 1000 = 1·756 kg

(Total for Question 4 is 1 mark)

[Edexcel, GCSE, Summer 2019, Paper 2F, Q4]

21

A container is in the shape of a cuboid.



The container is $\frac{2}{3}$ full of water.

A cup holds 275 m*l* of water.

What is the greatest number of cups that can be completely filled with water from the container?

$19 \times 6 \times 30 = 3420 cm^2$

$1 cm^2 = 1 mL$

$\frac{2}{3} \times 3420 = 2280 mL$

$2280 \div 275 = 8.29$

8

(Total for Question 23 is 4 marks)

[Edexcel, GCSE, Summer 2019, Paper 2F, Q23]

22

Change 1.5 kilometres to metres.

1.5 x 1000 = 1500

..... metres

(Total for Question 3 is 1 mark)

[Edexcel, GCSE, Summer 2019, Paper 3F, Q3]

23

In October Sally drove 560 miles in her car.
The car travelled 34.5 miles for each gallon of petrol used.

Petrol cost £1.08 per litre.
1 gallon = 4.55 litres.

Work out the cost of the petrol the car used in October.

560 ÷ 34.5 = 16.23 gallons

16.23 x 4.55 = 73.86 litres

73.86 x 1.08 = £79.76

£ 79.76

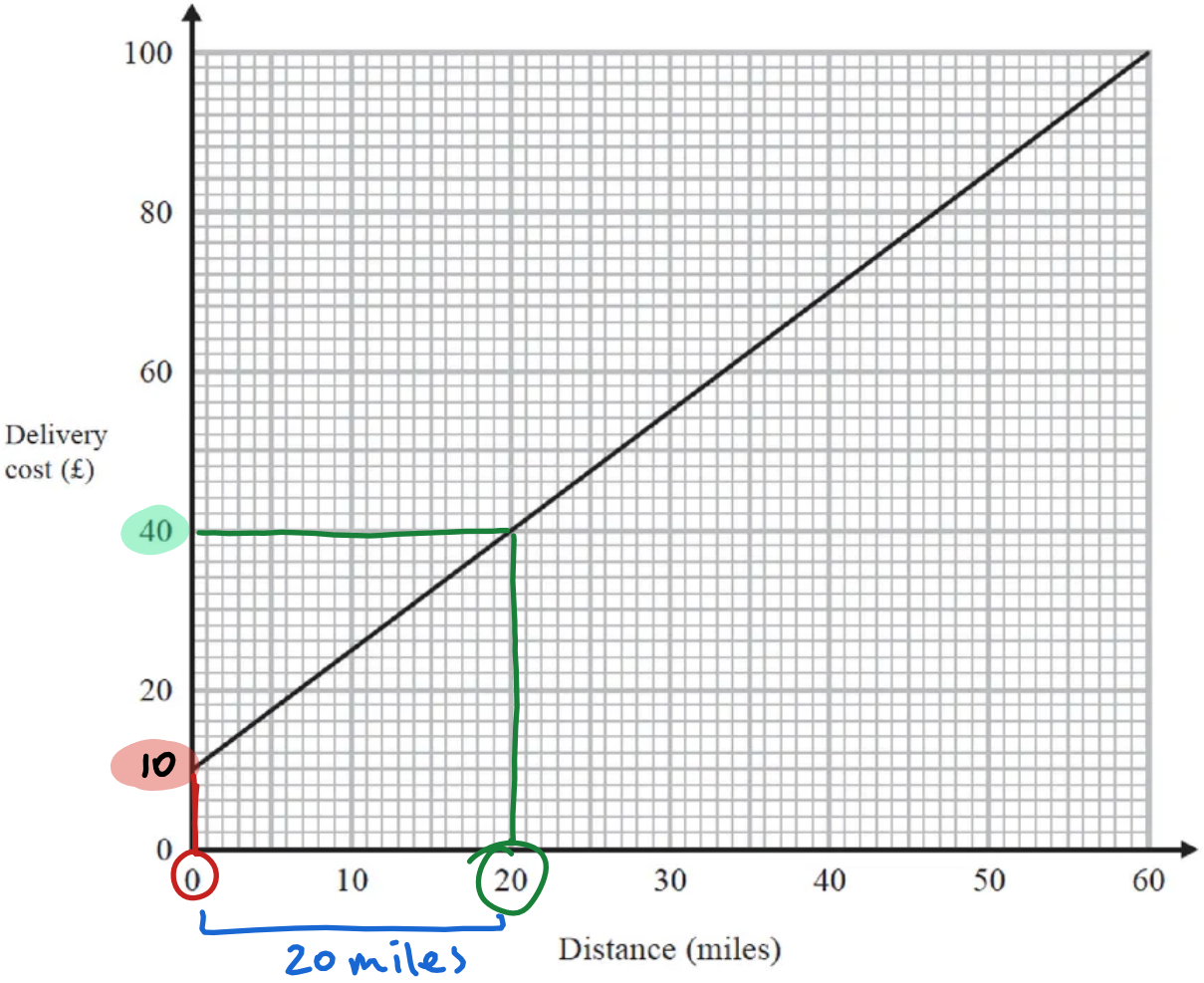
(Total for Question 22 is 4 marks)

[Edexcel, GCSE, Summer 2019, Paper 3F, Q22]

24

Tom uses his lorry to deliver bricks.

You can use this graph to find the delivery cost for different distances.



For each delivery, there is a fixed charge plus a charge for the distance.

(a) How much is the fixed charge?

£ 10

(1)

Tom makes two deliveries of bricks.
The distance of one delivery is 20 miles more than the distance of the other delivery.

(b) Work out the difference between the two delivery costs.

40 − 10 = £ 30

(2)

(Total for Question 12 is 3 marks)

[Edexcel, GCSE, Autumn 2018, Paper 1F, Q12]

25

(a) Change 4560 g into kg.

4560 ÷ 1000 = 4·56

..... kg

(1)

(b) Change 7.3 m into mm.

7·3 x 1000 = 7300

..... mm

(1)

(Total for Question 3 is 2 marks)

[Edexcel, GCSE, Autumn 2018, Paper 2F, Q3]

26

A map has a scale of 1 cm to 14 km.

On the map, the distance between Manchester and London is 18.8 cm.

What is the real distance, in km, between Manchester and London?

18·8 x 14 = 263·2

263·2 km

(Total for Question 8 is 2 marks)

[Edexcel, GCSE, Autumn 2018, Paper 2F, Q8]

27

Shaun is 1.88 m tall. 188cm

David is 6 cm taller than Shaun. 0·06m

How tall is David?

1·88 - 0·06 = 1·82m

188 - 6 = 182cm

.....

(Total for Question 7 is 2 marks)

[Edexcel, GCSE, Autumn 2018, Paper 3F, Q7]

28

Renee buys 5 kg of sweets to sell.
She pays £10 for the sweets.

Renee puts all the sweets into bags.
She puts 250 g of sweets into each bag.
She sells each bag of sweets for 65p.

Renee sells all the bags of sweets.

Work out her percentage profit.

5000g

5000 ÷ 250 = 20 bags

20 x 65 = 1300p
= £13 ÷100

13 - 10 = £3 profit

$\frac{3}{10}$ x 100 = 30%

..... %

(Total for Question 21 is 4 marks)

[Edexcel, GCSE, Summer 2018, Paper 1F, Q21]

29

(a) Change 35 cm to mm.

35 x 10 = 350 ..... mm

(1)

(b) Change 7700 millilitres to litres.

7700 ÷ 1000 = 7.7 ..... litres

(1)

(c) Change 0.32 kilograms to grams.

0.32 x 1000 = 320 ..... grams

(1)

(Total for Question 5 is 3 marks)

[Edexcel, GCSE, Summer 2018, Paper 2F, Q5]

30

This is part of a bus timetable between Bury and Manchester.

Bury	08 25	08 55	09 15	09 30	09 45	10 05
Whitefield	08 34	09 04	09 24	09 39	09 54	10 14
Heaton Park	08 46	09 16	09 36	09 51	10 06	10 27
Cheetham	08 56	09 26	09 46	10 01	10 16	10 37
Manchester	09 05	09 35	09 55	10 10	10 25	10 48

(a) How many minutes should the 08 25 bus take to go from Bury to Manchester?

8:25 → 40 → 9:05

40 minutes

(1)

Daniel goes from Whitefield to Manchester by bus.

Daniel takes 17 minutes to get from his house to the bus stop in Whitefield.
He takes 15 minutes to get from the bus stop in Manchester to work.

Daniel has to get to work by 10 am.
He leaves his house at 8.45 am.

(b) Does Daniel get to work by 10 am?
You must show all your working.

8:45
+17
9:02

9:04 Bus
9:35
+15
9:50

Yes. 9:50 am.

(3)

(Total for Question 9 is 4 marks)

[Edexcel, GCSE, Summer 2018, Paper 3F, Q9]

31

(a) Change 365 cm into metres.

$365 \div 100 = 3.65$ ..... m

(1)

(b) Change 2.7 kg into grams.

$2.7 \times 1000 = 2700$ ..... g

(1)

(Total for Question 1 is 2 marks)

[Edexcel, GCSE, Autumn 2017, Paper 1F, Q1]

32

Ken buys some fruit.

He buys apples, bananas, peaches and oranges.
Ken buys

4 apples	weighing 125 g each
2 bananas	weighing 170 g each
3 peaches	weighing 135 g each

$4 \times 125 = 500$
$2 \times 170 = 340$
$3 \times 135 = 405$
1245g

Each orange has a weight of 90 g.

The fruit has a total weight of 1.785 kg. 1785

(a) Work out how many oranges Ken buys.

Oranges = $1785 - 1245 = 540$

$540 \div 90 = 6$

(3)

Jane wants to buy 15 tomatoes.
She asks for 1 kg of tomatoes at a shop. 1000g
Jane assumes that each tomato has a weight of 75 g.

(b) (i) If Jane's assumption is correct, will she get 15 tomatoes?
You must show how you get your answer.

$1000 \div 75 = 13.\dot{3}$

No she won't.

(2)

(ii) If Jane's assumption is **not** correct, could she get 15 tomatoes?
Justify your answer.

Yes. If they weigh 66.6g or less.

(1)

(Total for Question 4 is 6 marks)

[Edexcel, GCSE, Autumn 2017, Paper 2F, Q4]

33

Thais has a large bottle of shampoo.
There are 2 litres of shampoo in the large bottle. 2000ml

Thais also has some empty small bottles.
Each small bottle can be completely filled with 150 ml of shampoo.

How many small bottles can be completely filled with shampoo from the large bottle?

$2000 \div 150 = 13.\dot{3}$

13

(Total for Question 5 is 3 marks)

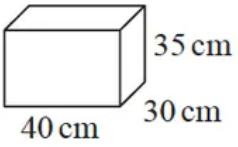
[Edexcel, GCSE, Autumn 2017, Paper 3F, Q5]

34

Chloe has a van.

She is going to use the van to deliver boxes.
Each box is a cuboid, 40 cm by 30 cm by 35 cm.

$0.35 \times 0.3 \times 0.4$
$= 0.042 m^3$



The space for boxes in the van has

maximum length	2.4 m
maximum width	1.5 m
maximum height	1.4 m

Volume $= 2.4 \times 1.5 \times 1.4$
$= 5.04 m^3$

The space for boxes is empty.
Chloe wants to put as many boxes as possible into the van.

She can put 3 boxes into the van in one minute.
Assume that the space for boxes is in the shape of a cuboid.

(a) Work out how many minutes it should take Chloe to put as many boxes as possible into the van.

$5.04 \div 0.042 = 120$ boxes

$120 \div 3 = 40$ minutes

40 minutes

(4)

The space for boxes might **not** be in the shape of a cuboid.

(b) Explain how this could affect the time it would take Chloe to put as many boxes as possible into the van.

Chloe may take more or less time.

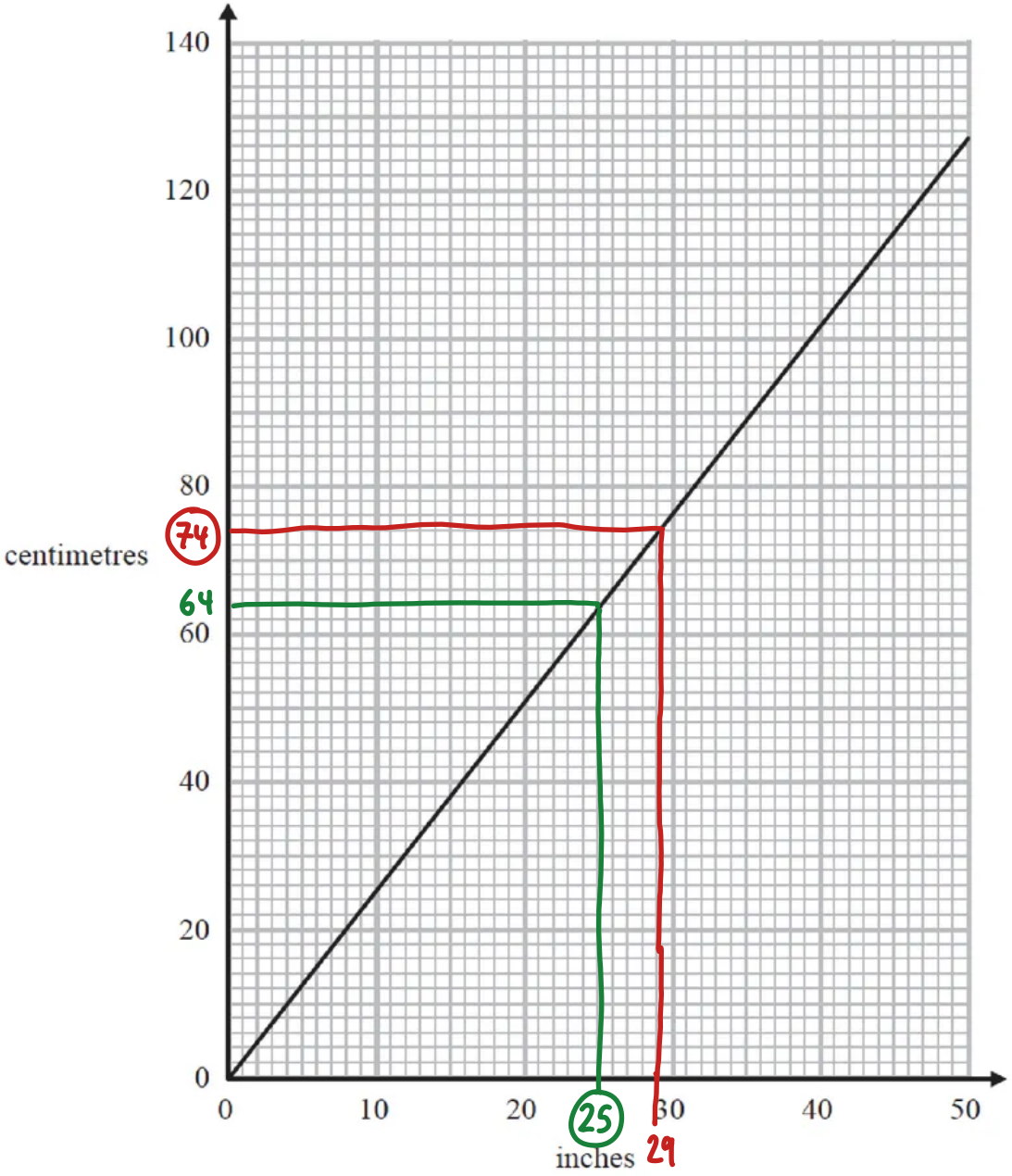
(1)

(Total for Question 16 is 5 marks)

[Edexcel, GCSE, Autumn 2017, Paper 3F, Q16]

35

You can use this graph to change between inches and centimetres.



(a) Change 74 cm to inches.

29 inches

(1)

Daniel's height is 6 feet 3 inches.

1 foot = 12 inches

6 x 12 + 3 = 75

(b) What is Daniel's height in centimetres?

25 inches = 64cm

75 inches = 192cm

192 centimetres

(3)

(Total for Question 11 is 4 marks)

[Edexcel, GCSE, Summer 2017, Paper 2F, Q11]

36

Davos is a cleaner.

The table shows information about the time it will take him to clean each of four rooms in a house.

Room	Time
Kitchen	2 hours
Sitting room	1 hour 40 minutes
Bedroom	$1\frac{1}{2}$ hours
Bathroom	45 minutes

120
100
90
45
355

Davos wants to clean all four rooms in one day.
He will have breaks for a total time of 75 minutes.

Davos is going to start cleaning at 9 am.

Will he finish cleaning by 4 pm?
You must show all your working.

355 + 75 = 430 minutes

420mins = 7hours

430 mins = 7hours 10mins

9am

↓ +7h 10mins

4:10pm

No

(Total for Question 9 is 3 marks)

[Edexcel, GCSE, Summer 2017, Paper 3F, Q9]

37

Change 9 metres into centimetres.

1m = 100cm

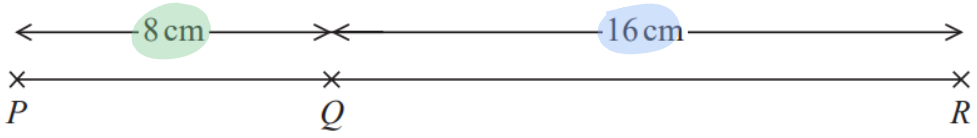
900 centimetres

(Total for Question 3 is 1 mark)

[Edexcel, GCSE, Summer 2023, Paper 2F, Q3]

38

The diagram shows three motorway service stations P, Q and R on a map.



The map has a scale of 1 cm = 4 km.

Work out the real distance from P to R.

8 + 16 = 24cm

1cm = 4km (×24)

24cm = 96km

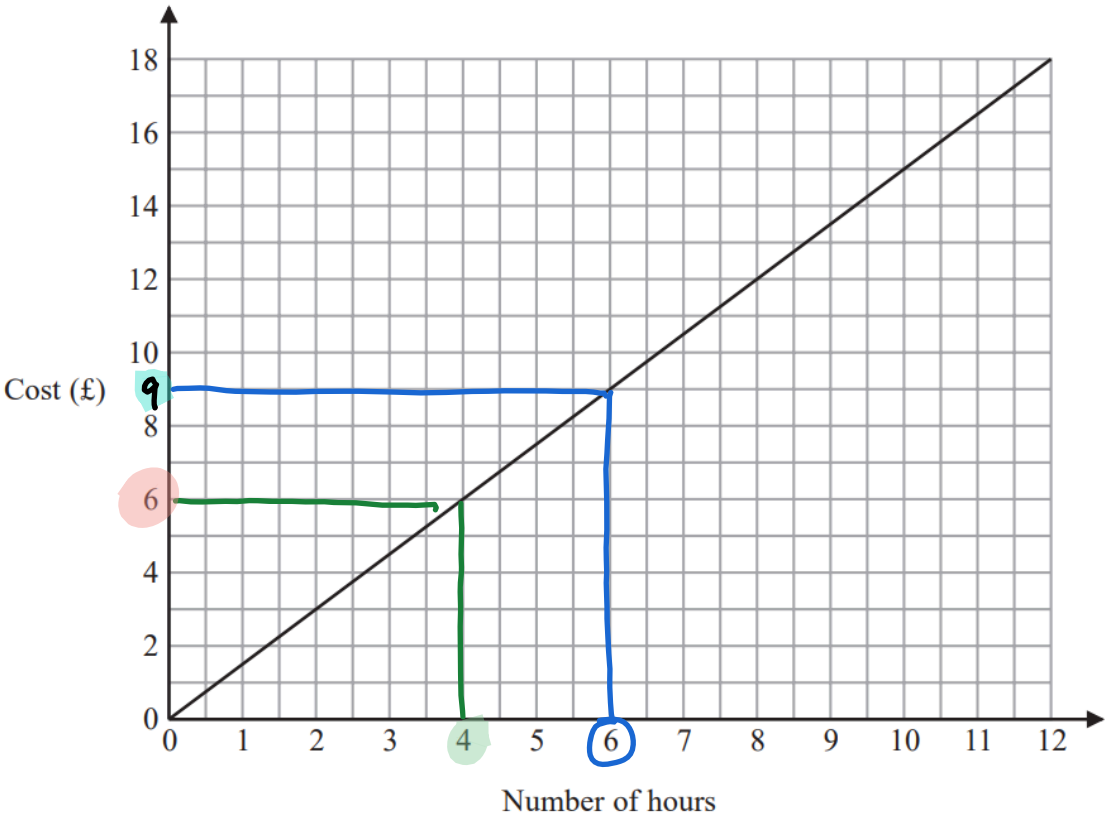
96 km

(Total for Question 8 is 3 marks)

[Edexcel, GCSE, Summer 2023, Paper 2F, Q8]

39

This graph can be used to find the cost of parking a car in a car park for up to 12 hours.



(a) Use the graph to find the cost of parking a car for 4 hours.

£ 6

(1)

Justin drives into the car park at 08 00 in the morning.
When he drives out of the car park he has to pay £9

(b) At what time does Justin drive out of the car park?

6 hours later.

08:00
+06:00
14:00

14:00 or 2pm

(3)

(Total for Question 10 is 4 marks)

[Edexcel, GCSE, Summer 2023, Paper 2F, Q10]

Change 4000 grams into kilograms.

1kg = 1000g

4 kilograms

(Total for Question 4 is 1 mark)

[Edexcel, GCSE, Summer 2023, Paper 3F, Q4]

41

Change 53 centimetres to millimetres.

1 cm = 10mm

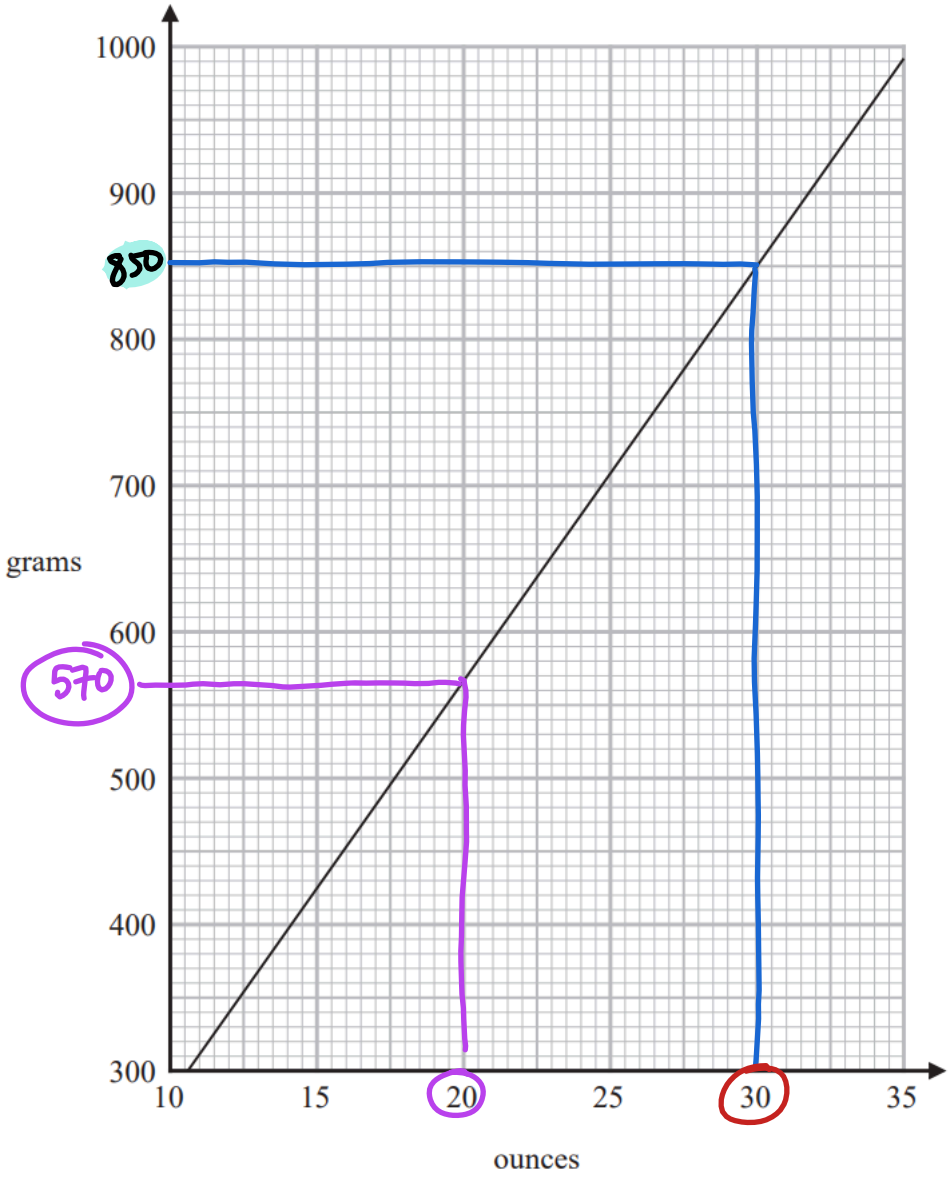
530 millimetres

(Total for Question 4 is 1 mark)

[Edexcel, GCSE, November 2022, Paper 2F, Q4]

42

You can use this graph to change between ounces and grams.



(a) Change 850 grams to ounces.

30 ounces

(1)

(b) Change 80 ounces to grams.

20 ounces = 570g ×4

80 ounces = 2280g

2280 grams

(2)

(Total for Question 14 is 3 marks)

[Edexcel, GCSE, November 2022, Paper 2F, Q14]

(a) Change 8000 cm³ to m³

$1m^3 = 1{,}000{,}000 cm^3$

$0.001 m^3 = 1000 cm^3$

$0.008 m^3 = 8000 cm^3$

0.008 ..... m³

(1)

(b) Change a speed of 180 km per hour to metres per second.

180km = 60 mins ÷60

÷60 3km = 1 min

3000m = 60 seconds ÷60

÷60 50m = 1 second

50 ..... metres per second

(3)

(Total for Question 27 is 4 marks)

[Edexcel, GCSE, November 2022, Paper 2F, Q27]