1 Candles cost £3.05 each.
Theo has £30 to spend on candles.
He buys as many candles as he can for £30

Work out how much change Theo should get.

£...

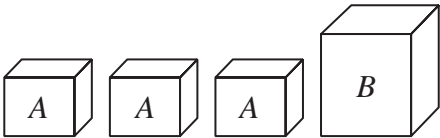**(Total for Question 1 is 3 marks)**

2

Diagram **NOT**
accurately drawn

The diagram shows four parcels.
The total weight of the four parcels is 8.3 kg.

The weight of the parcel labelled *B* is 3.2 kg.
Each of the three parcels labelled *A* have the same weight.

(a) Work out the weight of each of the parcels labelled *A*.

.... kg
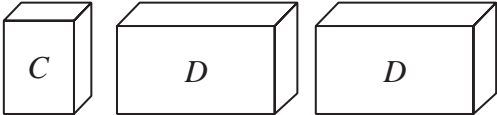
(2)

Here are another three parcels.

Diagram **NOT**
accurately drawn

The total weight of the three parcels is 9.45 kg.

Each of the two parcels labelled *D* have the same weight.

The weight of each parcel labelled *D* is $3\times$ the weight of the parcel labelled *C*.

(b) Work out the weight of the parcel labelled *C*.

.... kg

(2)

(Total for Question 2 is 4 marks)

3 There are 32 children in a nursery.

Sandeep buys 5 boxes of balloons.
There are 25 balloons in each box.

Sandeep shares the balloons equally between the 32 children so that each child gets as many balloons as possible.

Work out the number of balloons that are not shared between the 32 children.

....

(Total for Question 3 is 4 marks)

4 Freda is playing a car racing game on her computer.

She sets up her computer so that her car completes each lap in the same number of seconds.
Her car completes 3 laps in 72 seconds.

To win the game, Freda has to complete 68 laps in less than half an hour.

Does Freda win the game?
Give a reason for your answer.

(Total for Question 4 is 4 marks)

5 Matt buys a notebook and some pencils.

The notebook costs $2.35
Each pencil costs $0.74

Matt has a total of $20 to spend on the notebook and the pencils.
He buys the greatest number of pencils that he can.

Work out how many pencils he buys.

....

(Total for Question 5 is 3 marks)

6 Toy cars are made in a factory.
The toy cars are made for 15 hours each day.
5 toy cars are made every 12 seconds.

For the toy cars made each day, the probability of a toy car being faulty is 0.002

Work out an estimate of the number of faulty toy cars that are made each day.

....

(Total for Question 6 is 4 marks)

7 The table gives the minimum temperature for January 2018 in each of six cities.

City	Minimum temperature (°C)
Barcelona	3
Donetsk	−10
Mexico City	−1
Mombasa	22
New York	−15
Sydney	15

(a) Which of these six cities has the lowest minimum temperature?

....

(1)

(b) Work out the difference between the minimum temperature of Donetsk and the minimum temperature of Sydney.

....°C

(1)

The minimum temperature in Edmonton for January 2018 was 50°C less than the minimum temperature in Mombasa for January 2018

(c) Work out the minimum temperature in Edmonton for January 2018

....°C

(1)

(Total for Question 7 is 3 marks)

8 At 6 pm, the temperature in Victoria's garden was 5 °C.
By midnight, the temperature in Victoria's garden had fallen by 9 °C.

(a) Work out the temperature in Victoria's garden at midnight.

....°C

(2)

Here is a list of 7 temperatures.

$$4\,°C \qquad -6\,°C \qquad 4\,°C \qquad 0\,°C \qquad -1\,°C \qquad -7\,°C \qquad -5\,°C$$

(b) For the 7 temperatures in the list,

(i) write down the mode,

....°C

(1)

(ii) find the median.

....°C

(2)

(Total for Question 8 is 5 marks)

9 The table shows the land area, in km², of each of six African countries.

Country	Land area (km²)
Botswana	566 730
Kenya	569 140
Namibia	823 290
Somalia	627 340
Tanzania	885 800
Zambia	743 390

(c) Work out the difference between the land area of Botswana and the land area of Kenya.

.... km²

(1)

(Total for Question 9 is 1 mark)

10 The table gives information about the boiling points and the freezing points of some elements.

Element	Chlorine	Mercury	Neon	Oxygen
Boiling point (°C)	–35	357	–246	–183
Freezing point (°C)	–101	–39	–249	–218

Dr Strauss is going to cool chlorine from its boiling point to its freezing point.
He knows that it will take 2 minutes for the temperature of the chlorine to go down 10 °C.

(d) Work out how long it will take the chlorine to cool from its boiling point to its freezing point?

.... minutes

(2)

(Total for Question 10 is 2 marks)

11 Find the number that is exactly halfway between 3.7 and 6.1

....

(Total for Question 11 is 2 marks)

12 The table shows the populations of five countries.

Country	Population
China	1.4×10^9
Germany	8.2×10^7
Sweden	9.9×10^6
Fiji	9.1×10^5
Malta	4.3×10^5

Given that

$$\text{population of Fiji} = \frac{1}{k} \times \text{population of Sweden}$$

(b) work out the value of *k*.
Give your answer correct to the nearest whole number.

k = ...

(2)

(Total for Question 12 is 2 marks)

13 Jethro has sat 5 tests.
Each test was marked out of 100 and Jethro's mean mark for the 5 tests is 74

Jethro has to sit one more test that is also to be marked out of 100

Jethro wants his mean mark for all 6 tests to be at least 77

Work out the least mark that Jethro needs to get for the last test.

....

(Total for Question 13 is 3 marks)

14 This formula can be used to work out the cost, in riyals, of hiring a bicycle in Qatar for a number of days.

$$\text{Cost} = 65 \times \text{number of days} + 44$$

Ghalia hired a bicycle in Qatar for 14 days.

(a) Work out the cost.

.... riyals

(2)

This formula can be used to work out the cost, in riyals, of hiring a helmet in Qatar for a number of days.

$$\text{Cost} = 12.5 \times \text{number of days}$$

Kasun wants to hire a bicycle and a helmet for the same number of days.
He wants to hire them for as many days as he can.
He has 750 riyals to spend.

(b) Work out how much of the 750 riyals is not spent.

.... riyals

(4)

(Total for Question 14 is 6 marks)

15 Sabbir has some boxes of bananas and some sacks of tomatoes.
The weight of each box of bananas is the same and the weight of each sack of tomatoes is the same.

The weight of 3 boxes of bananas is 42 kg.
The weight of 8 sacks of tomatoes is 68 kg.

Work out the total weight of 9 boxes of bananas and 15 sacks of tomatoes.

.... kg

(Total for Question 15 is 3 marks)

16 In Berlin, a watch costs 120 euros.
In Dubai, the same model of watch costs 600 dirhams.

The currency exchange rates are

| **Exchange rates** |
| £1 = 1.16 euros |
| 1 dirham = 0.24 euros |

Calculate the difference between the cost of the watch in Berlin and the cost of the same model of watch in Dubai.
Give your answer in pounds (£) correct to 2 decimal places.

£...

(Total for Question 16 is 4 marks)

17 On Wednesday, the price of 1 litre of petrol was £1.26
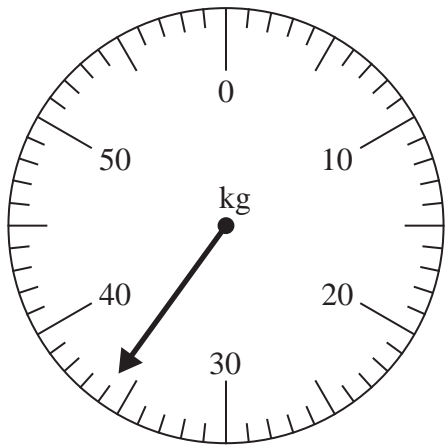The price of petrol on Wednesday was 5% more than the price of petrol on the previous Monday.

Calculate the price of 30 litres of petrol on the previous Monday.

£ ....

(Total for Question 17 is 3 marks)

18 Amir is going on holiday.

He weighs his suitcase on the weighing scales at the airport.
The reading on the scale gives the weight of Amir's suitcase.

An excess luggage charge has to be paid when the weight of a suitcase is greater than 25 kg.
This charge is 7.45 euros for each kilogram over the 25 kg limit.

Work out the excess luggage charge that Amir has to pay.

.... euros

(Total for Question 18 is 3 marks)

19 Elvira and Anja go on holiday to Sweden and to Finland.

In Sweden, Elvira bought some trainers for 438 Swedish krona.
In Finland, Anja bought the same type of trainers for 44.39 euros.

1 Swedish krona = 0.12 dollars

1 dollar = 0.92 euros

Work out the difference in the cost of the trainers bought by Elvira and the trainers bought by Anja.
Give your answer in dollars.

.... dollars

(Total for Question 19 is 4 marks)

20   Masie is told that $13\,203 \div 27 = 489$

Explain how she can use this calculation to work out 489×28

....

....

....

(Total for Question 20 is 2 marks)

21 Jakub has bought a chicken.

He is going to use this rule to work out the number of minutes it will take to cook his chicken.

> **Cooking time (minutes)**
>
> Multiply the chicken's weight, in kg, by 40
> **Then add**
> 30

The weight of Jakub's chicken is 2.6 kg

(a) Use the rule to work out the number of minutes it will take to cook Jakub's chicken.

.... minutes

(2)

The following week Jakub buys another chicken.

He uses the rule and works out that it will take 2 hours 40 minutes to cook this chicken.

(b) Work out the weight of this chicken.

.... kg

(3)

(Total for Question 21 is 5 marks)

22   Danielle is going to print some business cards.

She uses this rule to work out the total cost, in euros, of printing the business cards.

Total cost = price per card × number of cards + fixed fee

price per card = 0.14 euros
fixed fee = 25 euros

Danielle is going to print 350 business cards.

Work out the total cost of printing the business cards.

.... euros

(Total for Question 22 is 3 marks)

23   Angelina buys

3 packets of seeds at $2.45 each packet

2 bags of compost at $6.20 each bag

and   4 plant pots

Each plant pot costs the same amount of money.

Angelina paid a total of $34.35 for the seeds, compost and plant pots.

Work out the cost of each plant pot.

$..

(Total for Question 23 is 4 marks)

24   Mairi has a 2 metre length of string.
She cuts from the string as many lengths of 35 centimetres as possible.

Work out the length of string that she has left.
Give your answer in centimetres.

.... cm

(Total for Question 24 is 3 marks)

25 Zoya buys a book and some pencils.

The book costs £6.90
Each pencil costs £0.55

Zoya has a total of £15 to spend on the book and the pencils.
She buys as many pencils as she can.

Work out how many pencils she buys.

....

(Total for Question 25 is 3 marks)

26 Aarav uses this rule to estimate the time, in minutes, that a bus journey takes.

| Time | = | $2.5 \times$ length of journey in kilometres | + | $1.5 \times$ number of bus stops |

Aarav's bus journey to work has a length of 12 kilometres.
There are 5 bus stops on the route.

(a) Use Aarav's rule to work out an estimate for the time this bus journey takes.

.... minutes

(2)

A different bus journey takes 55 minutes.
There are 8 bus stops on the route.

(b) Use Aarav's rule to work out an estimate for the distance of this bus journey.

.... km

(3)

(Total for Question 26 is 5 marks)

27   Luca has 5 kg of chopped tomatoes.
He also has some empty tins.

When full, each tin holds 350 g of chopped tomatoes.

Luca fills as many tins as possible with the chopped tomatoes.

Work out the weight of the chopped tomatoes remaining after Luca has filled as many tins as possible.
Give the units of your answer.

....

(Total for Question 27 is 4 marks)

28   Sandeep sells 600 tickets for an event.
He receives a total of $7200 from selling the tickets.

$\dfrac{1}{4}$ of the tickets sold are child tickets.

The rest of the tickets sold are adult tickets.

The cost of an adult ticket is $13.60

Work out the cost of a child ticket.

$ ....

(Total for Question 28 is 4 marks)

29 The table gives information about the costs of sending parcels of different weights.

Weight (w kg)	Cost of sending a parcel
$0 < w \leqslant 1$	£6.00
$1 < w \leqslant 2$	£9.02
$2 < w \leqslant 5$	£15.85
$5 < w \leqslant 10$	£21.90

Peony has one parcel of weight 1.3 kg and another parcel of weight 8 kg to send to two different places.

(a) Work out the total cost of sending these two parcels.

£...

(2)

Gryffyn sends 3 parcels each to a different place.
One of the parcels has a weight of 1.5 kg and another of the parcels has a weight of 2.8 kg
The total cost of sending the 3 parcels is £33.89

(b) Work out the greatest possible weight of the third parcel.

.... kg

(3)

(Total for Question 29 is 5 marks)

30 The following rule is used to work out the total cost, in euros, of hiring a cement mixer.

> Total cost = 8 euros per day plus 5 euros

James hires a cement mixer for 3 days.

(c) Work out the cost to James of hiring the cement mixer.

.... euros

(1)

The cost to Sophia of hiring a cement mixer is 61 euros.

(d) For how many days does Sophia hire the cement mixer?

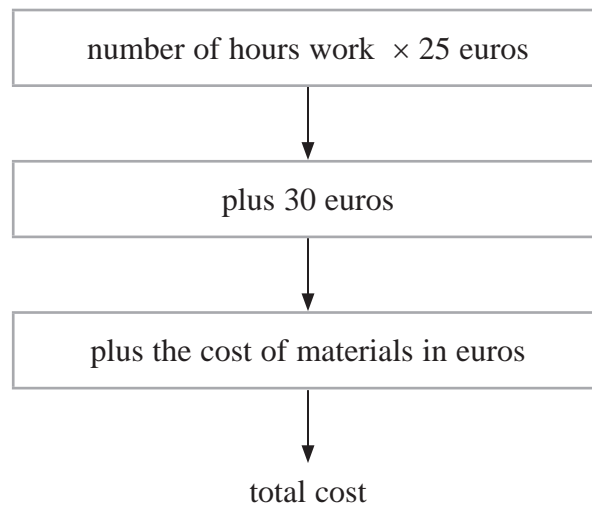.. days

(2)

(Total for Question 30 is 3 marks)

31   Georgia is a plumber.

She uses this rule to work out the total cost, in euros, of her customers' bills.

$$\boxed{\text{number of hours work } \times 25 \text{ euros}}$$

$$\downarrow$$

$$\boxed{\text{plus 30 euros}}$$

$$\downarrow$$

$$\boxed{\text{plus the cost of materials in euros}}$$

$$\downarrow$$

total cost

Georgia does some plumbing work for Tallulah.

She works for 3 hours.
The cost of the materials she uses is 42 euros.

(a) Work out the total cost of Tallulah's bill.

.... euros

(2)

Georgia also does some plumbing work for Sam.

The cost of the materials she uses is 65 euros.
The total cost of Sam's bill is 220 euros.

(b) Work out the number of hours that Georgia works for Sam.

.... hours

(3)

(Total for Question 31 is 5 marks)

32   Carla wraps some parcels with ribbon.
She wraps 2 large parcels and 3 small parcels.

For each large parcel, Carla uses 185 centimetres of ribbon.
For each small parcel, she uses p centimetres of ribbon.

In total, Carla uses exactly 7 metres of ribbon to wrap the parcels.

Find the value of p

$p =$ ....

(Total for Question 32 is 3 marks)

33 Adriana makes some cupcakes.

She sells each cupcake for £2.20

Mike buys 6 of these cupcakes.
He pays with a £20 note.

(a) Work out how much change Mike should receive.

£...

(2)

Greta sells balloons.

She sells each balloon for £0.85

Stefan has £50 to spend on balloons.

(b) Work out the greatest number of balloons he can buy.

....

(2)

(Total for Question 33 is 4 marks)