**1** £42 is shared equally between 3 friends.

How much does each friend get?

£42 ÷ 3

= £14 (1)

$$3\overline{)42} \quad 14$$

$$\begin{array}{r} 3 \\ \hline 12 \\ 12 \\ \hline \end{array}$$

£ 14 (1)

**(Total for Question 1 is 2 marks)**

**2** Danny buys,

1 loaf of bread for £1.20
1 bottle of milk for 70p
2 packets of cheese for £2.30 each packet

Danny pays with a £10 note.

He says,

"I should get £3.30 change."

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

Total = 1.20 + 0.70 + 2 × 2.30
= 1.20 + 0.70 + 4.60
= 6.50 (1)

According to BIDMAS, we need to multiply this first before adding

change = 10.00 − 6.50
= £3.50 (1)

∴ No, Danny is wrong. (1)

**(Total for Question 2 is 3 marks)**

**3** Rachel records the temperature in her garden at noon each day.

On Monday, the temperature was 5 °C.
On Tuesday, the temperature was 10° less than the temperature on Monday.
On Wednesday, the temperature was 3° greater than the temperature on Tuesday.

Find the difference between the temperature on Monday and the temperature on Wednesday.
You must show all your working.

Temperature : Monday = 5°C
Tuesday = 5°C − 10°C
= −5°C
Wednesday = −5°C + 3°C
= −2°C (1)

When 2 symbols meet:
(−)(−) = +
(−)(+) = −
(+)(+) = +
(+)(−) = −

Difference between Monday and Wednesday : 5°C − (−2°C)
= 5°C + 2°C
= 7°C (1)

7 ..... °C

**(Total for Question 3 is 2 marks)**

**4** 3 kg of carrots cost £1.80
2 kg of carrots and 5 kg of potatoes cost a total of £3.45

Work out the total cost of 4 kg of carrots and 2 kg of potatoes.
You must show all your working.

1 kg of carrots = £1.80 ÷ 3
= £0.60 (1)

2kg of carrots + 5 kg of potatoes = £3.45

5 kg of potatoes = £3.45 − 2(£0.60) → Rearrange the equation so the potatoes are on one side
= £2.25

1 kg of potato = £2.25 ÷ 5
= £0.45 (1)

multiply the terms first

Total cost of 4 kg of carrots and 2 kg of potatoes = (4 × 0.60) + (2 × 0.45) (1)
= 2.40 + 0.90
= £3.30 (1)

£ 3.30

**(Total for Question 4 is 4 marks)**

**5** (a) Work out $3.67 \times 4.2$

$$\begin{array}{r} 3.67 \\ \times \quad 4.2 \\ \hline 734 \\ +\ 1468 \\ \hline 15.414 \end{array}$$

(1)

multiply the numbers as usual without taking account the decimal point

Place the decimal point in the answer. The total decimal places in the answer will be the sum of decimal places of both terms.

3.67 has 2 d.p, 4.2 has 1 d.p, answer will have 3 d.p.

15.414 (1)

**(3)**

(b) Work out $59.84 \div 1.6$

$\times 10 \quad \times 10$

multiply both terms by 10 to convert 1.6 to an integer

$$\begin{array}{r} 37.4 \\ 16\overline{)598.4} \\ -48 \\ \hline 118 \\ -112 \\ \hline 6.4 \\ -6.4 \\ \hline \end{array}$$

(1) (1)

37.4 (1)

**(3)**

**(Total for Question 5 is 6 marks)**

**6** On Monday, Sandy pays for 2 plane tickets, 7 nights in a hotel and 2 theme park tickets.

| | **dollars** | |
|---|---|---|
| each plane ticket | 600 | x 2 |
| each night in a hotel | 120 | x 7 |
| each theme park ticket | 250 | x 2 |

Show that Sandy pays more than 2500 dollars on Monday.

Sandy pays : $(2 \times 600) + (7 \times 120) + (2 \times 250)$ (1)

according to BIDMAS, we need to multiply the terms first before adding them together

$= 1200 + 840 + 500$ (1)

$= 2540$ (1) $2540 > 2500$

∴ Sandy pays more than 2500

**(Total for Question 6 is 3 marks)**

**7** Given that

$$2.96 \times 3.2 = 9.472$$

(b) find the value of $29.6 \times 32$

$29.6 \times 32 = (2.96 \times 10) \times (3.2 \times 10)$

$= 2.96 \times 3.2 \times 100$

$= 9.472 \times 100$

947.2 (1)

.....

**(1)**

**(Total for Question 7 is 1 mark)**

**8** The table shows the total number of apples sold and the total number of oranges sold in a shop in each of three weeks.

| | Week 1 | Week 2 | Week 3 |
|---|---|---|---|
| **Number of apples** | 86 | 75 | 92 |
| **Number of oranges** | 68 | 80 | 76 |

In total for the three weeks, more apples than oranges were sold.
How many more?

Apple sales : 86 + 75 + 92 = 253

Orange sales : 68 + 80 + 76 = 224 (1)

Difference between apples and oranges sold :

253 − 224 = 29 (1)

29 (1)

**(Total for Question 8 is 3 marks)**

**9** Work out $\dfrac{2.75 \times 14.6}{10 - 1.97}$

Tips : Multiply without decimal place.
Then, add back the total decimal places into final answer.

Numerator :

$$\begin{array}{r} 4 \\ 275 \\ \times\ 146 \\ \hline 1650 \\ 11000 \\ +\ 27500 \\ \hline 40150 \\ \hline \end{array}$$

40150 ÷ 1000
= 40.15 (1)

Denominator :

10 − 1.97
= 8.03

$$\frac{40.15}{8.03} = 5 \quad (1)$$

5

**(Total for Question 9 is 2 marks)**

**10** Work out $20 \div (3 + 2)$

$20 \div (3+2)$

$= 20 \div 5$

$= 4$ (1)

To solve the equation, we follow BIDMAS rule for step by step solution.

① solve bracket

② solve division

4

**(Total for Question 10 is 1 mark)**

**11** Fay is planning a trip to a theme park for 1 adult and 2 children.

These are the costs for the trip.

| | |
|---|---|
| Total cost of petrol | £23 |
| Tickets to theme park | £33 each adult<br>£24.50 each child |
| Meals | £15 each adult<br>£10 each child |

Fay has £200 to spend.
She pays all the costs.

How much money does she have left?

Total costs for the trip :

Petrol = £23

Tickets = 1 adult + 2 children
= £33 + 2 (£24.50)
= £33 + £49
= £82

Meals = 1 adult + 2 children
= £15 + 2 (£10)
= £15 + £20
= £35

TOTAL = £23 + £82 + £35
= £140 (3)

Money she has left : £200 − £140
= £60 (1)

£ 60

**(Total for Question 11 is 4 marks)**

**12** A shop sells jars of coffee.
Each jar of coffee costs £4

Michael has £23

(a) Work out the greatest number of jars of coffee Michael can buy.

Number of jars of coffee Michael can buy with £23 :

$\frac{23}{4} = 5.75$ (1) — not a whole number. We cannot buy 0.75 jar of coffee. Hence, we take whole number before which is 5.

Michael can only buy 5 jars of coffee.

5 (1)

**(2)**

In a sale on Wednesday, jars of coffee are sold at half price.

Michael thinks that he can now buy exactly twice the number of jars of coffee for £23

(b) Is Michael correct?
You must give a reason for your answer.

Each jar of coffee = £2

$\frac{23}{2} = 11.5$ . Michael can now buy 11 jar of coffee.

No. Michael can buy 11 jars instead of 10. (1)

**(1)**

**(Total for Question 12 is 3 marks)**

**13** Elena spent 120 minutes at a sports centre.

She played badminton for 50 minutes.

She used the swimming pool for $\frac{1}{6}$ of the 120 minutes.

She used the gym for 20% of the 120 minutes.
She then spent the rest of the 120 minutes in the cafe.

(a) Work out the total time, in minutes, that Elena spent in the cafe.

Finding time Elena spends swimming :

$\frac{1}{6} \times 120$ minutes $= 20$ (1)

Time spent at the gym :

$\frac{20}{100} \times 120$ minutes $= 24$ (1)

Time spend (badminton + swimming + gym) :

$50 + 20 + 24 = 94$ minutes

Time spent at cafe :

$120 - 94 = 26$ (1)

26 (1) minutes

**(4)**

Elena got to the sports centre at 1.30 pm.
She had asked her friend to meet her in the cafe at 3 pm.

(b) Did Elena get to the cafe by 3 pm?
Give a reason for your answer.

1.30 pm + 94 mins = 3.04 pm

No, she was 4 mins late. (1)

**(1)**

**(Total for Question 13 is 5 marks)**

**14** Myles writes down the distance readings from his car at the start and end of a journey.

| | | | | | | |
|---|---|---|---|---|---|---|
| Start of journey | 1 | 2 | 4 | 6 | 8 | miles |
| End of journey | 1 | 2 | 8 | 4 | 5 | miles |

Myles knows that the cost of petrol for this journey is 13p per mile.

Work out the total cost of the petrol used for this journey.
Give your answer in pounds.

Finding the total distance of the journey :

End of journey - Start of journey = 12 845 - 12 468
= 377 miles (1)

Finding the total cost of petrol used throughout the journey

377 miles × 13 p per mile = 4901 p (1) 1 £ = 100 p

= 4901 p ÷ 100 (1)

= £ 49.01 (1)

£ 49.01

**(Total for Question 14 is 4 marks)**

**15** Safiya wants to hire a van.
She uses this rule to work out the cost of hiring a van for a number of days.

Cost = £45 × number of days

Safiya is going to hire the van for 7 days.

Work out the cost.

Cost of hiring a van = £45 × 7 (1)

= £ 315 (1)

£ 315

**(Total for Question 15 is 2 marks)**

**16** 208 bars of chocolate were sold from a shop.

$\frac{1}{4}$ of these bars of chocolate were large bars.
The rest of the bars of chocolate were small bars.

All the large bars of chocolate were sold for £1 each.
All the small bars of chocolate were sold for 60p each.

Work out the total amount of money for which the 208 bars of chocolate were sold.
Give your answer in pounds.

Finding the number of large bars:

$\frac{1}{4} \times 208 = 52$ (1)

×100
£1 = 100 p
÷100

Finding the number of small bars:

$208 - 52 = 156$

Finding the total amount of money which 208 bars are sold for:

$52(1) + 156\left(\frac{60}{100}\right)$

$= 52 + 93.6$ (1)

$= 145.6$ (1)

£ 145.60

**(Total for Question 16 is 3 marks)**

**17** Four students play a game.
The table shows the number of points each student has.

| **Student** | Ali | Barbara | Calliope | Danesh |
|---|---|---|---|---|
| **Number of points** | 143 | 121 | 45 | 19 |

Barbara has more points than Danesh.

(a) How many more?

Finding difference between Barbara's points and Danish's

121 − 19 = 102

102 (1)

**(1)**

**(Total for Question 17 is 1 mark)**

**18** 200 students chose one language to study.
Each student chose one language from French or Spanish or German.

Of the 200 students,

90 are boys and the rest of the students are girls
70 chose Spanish
60 of the 104 students who chose French are boys
18 girls chose German.

Work out how many boys chose Spanish.

| | French | Spanish | German | Total |
|---|---|---|---|---|
| Girls | (44) | (48) | 18 | (110) |
| Boys | 60 | (22) | (8) | 90 |
| Total | 104 | 70 | (26) | 200 |

Finding total choosing German :

G : 200 - 104 - 70 : 26 (1)

Finding boys choosing German :

Boys : 26 - 18 : 8

Finding boys choosing Spanish :

Spanish : 90 - 60 - 8 = 22 (1)

(1)

22

**(Total for Question 18 is 3 marks)**

**19** There are 30 women and 20 men at a gym.

The mean height of all 50 people is 167.6 cm
The mean height of the 20 men is 182 cm

Work out the mean height of the 30 women.

Finding the total height of 50 people :

167.6 cm × 50 = 8380 cm (1)

Finding the total height of 20 men :

182 cm × 20 = 3640 cm

Finding mean height of 30 women :

$\frac{8380 - 3640}{30}$ (1) = 158 cm (1)

158 cm

**(Total for Question 19 is 3 marks)**

**20** Work out $-9 + 5$

$-4$ J1

.....

**(Total for Question 20 is 1 mark)**

**21** Max sees this special offer in a shop.

> Buy one large plate and get one small plate for half the normal price.

The normal price of a large plate is £2
The normal price of a small plate is 80p

so half = 40p

Max wants to buy 6 large plates and 6 small plates using this offer.
He has £15

Has Max got enough money?
You must show how you get your answer.

with the offer: 1 large plate + half £ for 1 small plate

he wants 6 of each ↓

£2 ×6 + 40p ×6 ✓(1)

£12 + £2.40 ✓(1)

= £14.40 ✓(1)

Final statement: Yes he has enough money ✓(1)
because it only costs £14.40

**(Total for Question 21 is 4 marks)**

**22** A total of 700 tickets were on sale for a football match.

452 of the tickets were sold.

(a) How many tickets were **not** sold?

700 total ✓1
- 452 sold
248 remaining

✓1
248

**(2)**

For a different football match,

297 tickets were sold for £9.50 each.
399 tickets were sold for £19.50 each.

(b) Work out an estimate for the total amount of money paid for these tickets.
You must show all your working.

estimate = rounding the numbers

297 tickets × £9.50 a ticket
↳ rounds to 300 tickets × £10 a ticket ✓1
= £3000 total

399 tickets × £19.50 a ticket
↳ rounds to 400 tickets × £20 a ticket ✓1
= £8000 total

£3000 + £8000 = £11,000

✓1
£ 11,000

**(3)**

(c) Is your answer to part (b) an underestimate or an overestimate?
Give a reason for your answer.

Overestimate because we rounded the price and tickets up ✓1

**(1)**

**(Total for Question 22 is 6 marks)**

**23** Work out $\frac{6}{7} \times \frac{5}{12}$

Give your answer as a fraction in its simplest form.

Simplify first

$\frac{6 \times 5}{7 \times 12}$ 6 and 12 can both be divided by 6

✓ (1) $\frac{1 \times 5}{7 \times 2} = \frac{5}{14}$

✓(1)

$5/14$

**(Total for Question 23 is 2 marks)**

**24** Work out $8.46 \div 0.15$

$\frac{8.46}{0.15} \times \frac{100}{100} = \frac{846}{15}$ ✓1

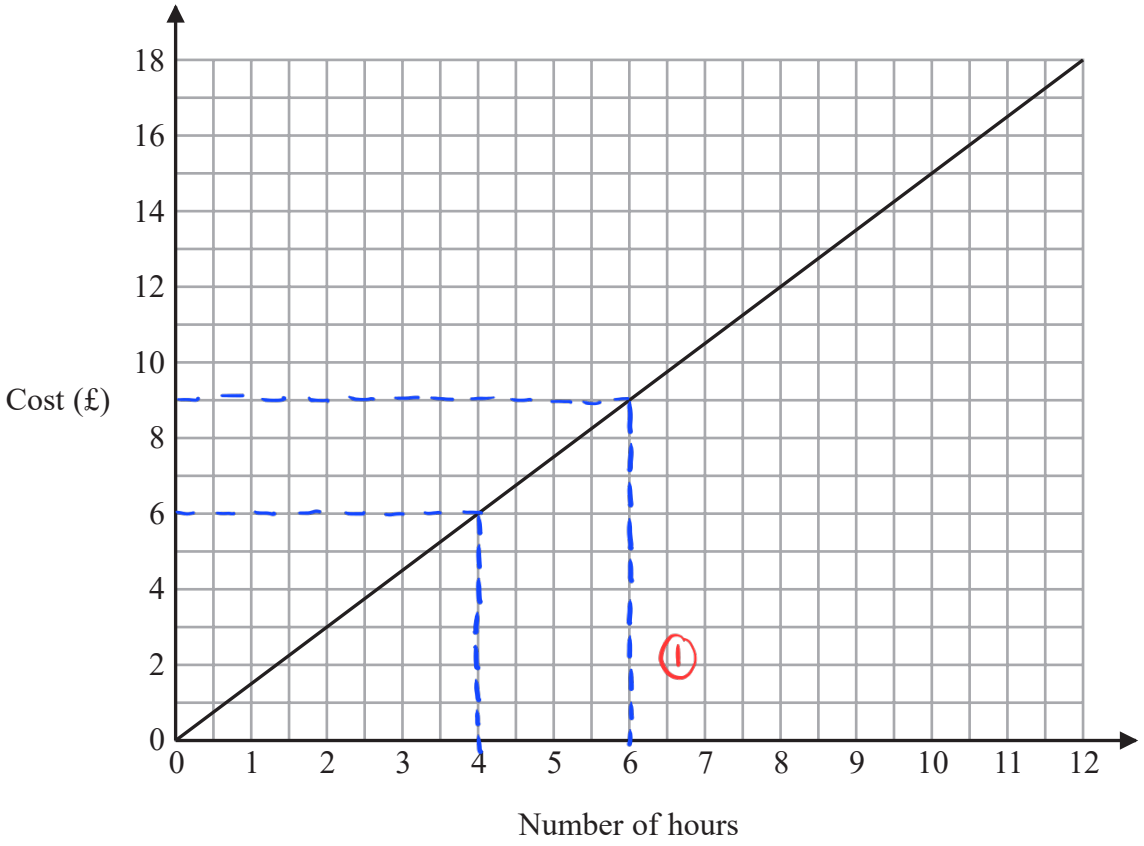
$15 \overline{)846.0} = 56.4$ ✓1

15
30
45
60
75
90

56.4 ✓1

**(Total for Question 24 is 3 marks)**

**25** 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)

**(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?

∴ Justin parked for 6 hours.

∴ He drive out of the car park at: 0800 + 6 hours (1)

= 14:00 or 2pm (1)

2 pm

**(3)**

**(Total for Question 25 is 4 marks)**

**26** The table shows information about the weights of the people in a hotel lift.

| Weight | Number of people |
|---|---|
| 40 kg | 1 |
| 50 kg | 2 |
| 60 kg | 4 |
| 70 kg | 5 |
| 80 kg | 3 |
| 90 kg | 1 |

Show that the total weight of the people in the lift is less than 1200 kg.

Total weight = (40 kg × 1) + (50 kg × 2) + (60 kg × 4) + (70 kg × 5)
+ (80 kg × 3) + (90 kg × 1) (1)

= 40 kg + 100 kg + 240 kg + 350 kg + 240 kg + 90 kg (1)

= 1060 kg < 1200 kg (shown)
(1)

**(Total for Question 26 is 3 marks)**

**27** Wayne begins walking at 8 30 am.
He walks for 1 hour and 45 minutes.

1 hour = 60 minutes

Wayne then rests for 15 minutes.
He then walks for 85 minutes to a cafe.

Does Wayne get to the cafe before 12 noon?
You must show how you get your answer.

Time to the cafe = 1 hour 45 mins + 15 mins + 85 mins

= 2 hours + 85 mins

= 2 hours + 1 hour 25 mins (1)

= 3 hours 25 mins (1)

Time Wayne started walking = 8.30 am

+ 3.25

11 : 55 am (1)

Yes, Wayne gets to the cafe at 11.55 am which is before 12 noon. (1)

**(Total for Question 27 is 4 marks)**

**28** Gabriel thinks of a number.

He multiplies his number by 5 and then adds 7
His answer is 72

What number did Gabriel think of?

let number = $x$

$x \times 5 + 7 = 72$

$5x + 7 = 72$

$5x = 72 - 7$

$5x = 65$ (1)

$x = \frac{65}{5}$ (1)

$x = 13$ (1)

13

**(Total for Question 28 is 3 marks)**

**29** Jonny wants to know how much coffee he will need for 800 people at a meeting.

Each person who drinks coffee will drink 2 cups of coffee.
10.6 g of coffee is needed for each cup of coffee.

Jonny assumes 68% of the people will drink coffee.

(a) Using this assumption, work out the amount of coffee Jonny needs.
Give your answer correct to the nearest gram.

Finding the number of people assumed to drink coffee :

$\frac{68}{\cancel{100}} \times \overset{8}{\cancel{800}} = 544$ (1)

Finding the amount of coffee for each person :

$10.6\text{ g} \times 2 = 21.2\text{ g}$ (1)

Finding the total amount of coffee Jonny needs :

$21.2\text{ g} \times 544 = 11532.8\text{ g}$ (1)

$\approx 11533\text{ g}$ (to the nearest gram)
(1)

11533 ..... g

**(4)**

Jonny's assumption is wrong.
72% of the people will drink coffee.

(b) How does this affect your answer to part (a)?

Jonny will need more amount of coffee. (1)

.....

.....

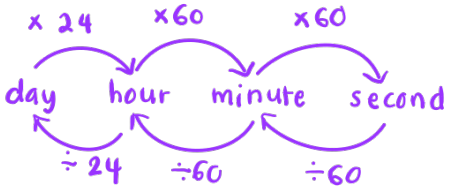
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**(1)**

**(Total for Question 29 is 5 marks)**

**30** Lava flows from a constant rate of $11.9\,m^3/s$

How many days does it take for $67\,205\,600\,m^3$ of lava to flow from the volcano?
Give your answer correct to the nearest day.




Finding total time it takes in seconds :

$$\frac{67\,205\,600\ m^3}{11.9\ \frac{m^3}{s}} = 5647529.412\ s$$ (1)

Converting time from seconds to days :

$$= 5647529.412\ s \times \frac{1\ day}{(24 \times 60 \times 60)\ s}$$

$$= \frac{5647529.412}{86400}$$ (1)

$$= 65.3 \text{ days}$$

$$= 65 \text{ days (nearest day)}$$ (1)

65 days

**(Total for Question 30 is 3 marks)**

**31** Ryan buys

4 cakes at £1.30 each
2 identical tins of soup.

Ryan pays with a £10 note.
He gets £1.80 change.

How much does Ryan pay for each tin of soup?

Finding total items Ryan buys : (let price of 1 tin of soup = x)

$4 \times £1.30 + 2 \times x = £5.20 + 2x$ (1)

$$\begin{array}{r} {\scriptstyle 1}\,1.30 \\ \times \quad 4 \\ \hline 5.20 \end{array}$$

Finding price for one tin of soup :

$£10 - (£5.20 + 2x) = £1.80$ (1)

$£10 - £5.20 - £1.80 = 2x$

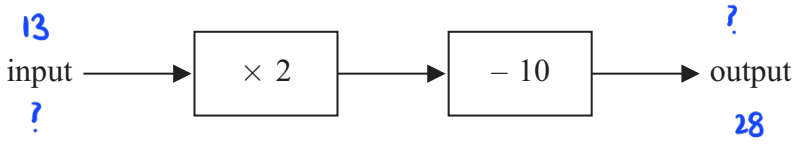
$£3.00 = 2x$ (1)

$£1.50 = x$ (1)

£ 1.50

**(Total for Question 31 is 4 marks)**

**32** Here is a number machine.




(a) Work out the output when the input is 13

When input = 13,

$(13 \times 2) - 10 = \text{output}$

$26 - 10 = \text{output}$

$16 =$

16 (1)

(1)

(b) Work out the input when the output is 28

when output = 28,

$(\text{input} \times 2) - 10 = 28$

$\text{input} \times 2 = 38$

$\text{input} = \frac{38}{2} = 19$

19 (1)

(2)

(c) Show that there is a number for which the output is the same as the input.

when output = input,

let output = input = $x$,

$(x \times 2) - 10 = x$

$2x - 10 = x$ (1)

$2x - x = 10$

$x = 10$

if input = 10, $(10 \times 2) - 10 = \text{output}$

$20 - 10 = \text{output}$

$10 = \text{output}$ (1)

$\therefore$ input = output = 10

(2)

**(Total for Question 32 is 5 marks)**

**33** (a) Work out $-12 \div -4$

3
−4 ) −12
− −12

3 (1)

.....

(1)

**(Total for Question 33 is 1 mark)**

**34** Work out $273 \times 54$

$$\begin{array}{r} {}^{2}\,{}^{1} \\ 273 \\ \times\ 54 \\ \hline 1092 \\ +\ 13650 \\ \hline 14742 \end{array}$$

(1) (1) (1)

14 742

**(Total for Question 34 is 3 marks)**

**35** Anil has a job as a driver.
He is paid for each mile he drives.
He is also paid expenses.

One week Anil writes down the distance readings from his car.




| | | | | | | |
|---|---|---|---|---|---|---|
| Start of week: | 4 | 7 | 2 | 4 | 1 | miles |
| End of week: | 4 | 7 | 8 | 7 | 9 | miles |

For this week, Anil is paid 47p for each mile he drives.
He is also paid expenses of £80

Work out the total amount that Anil is paid.
Give your answer in pounds.

Distance Anil travels :

47879 - 47241 = 638 miles (1)

Amount Anil paid for fuel :

638 miles × 47 p = 29986 p (1)

29986 p ÷ 100 = £299.86 (1)

Total amount Anil paid :

£299.86 + £80 = 379.86 (1)

£ 379.86

**(Total for Question 35 is 4 marks)**

**36** Saira buys 24 bars of chocolate.

$\frac{2}{3}$ of the 24 bars are white chocolate.

The rest of the 24 bars are milk chocolate.

Each milk chocolate bar has a weight of 35 grams.

Work out the total weight of the milk chocolate bars that Saira buys.

Finding ratio of milk chocolate :

$1 - \frac{2}{3} = \frac{1}{3}$

Finding number of milk chocolate :

$\frac{1}{3} \times 24 = 8$ bars (1)

Finding total weight of milk chocolate :

$8 \times 35 = 280$ g (1)

(1)

280 grams

**(Total for Question 36 is 3 marks)**

**37** On Monday, Lizzie cycled 36 kilometres in 3 hours.

(a) Work out Lizzie's average speed.

speed = distance / time

speed = 36 km / 3 hours (1)

= 12 km/hour

12 (1) ..... kilometres per hour

**(2)**

On Tuesday, Lizzie cycled 36 kilometres at an average speed of 16 kilometres per hour.

Lizzie says that the total time she cycled on Monday and Tuesday was less than 5 hours 20 minutes.

(b) Is Lizzie correct?
You must show how you get your answer.

time = distance / speed

= 36 / 16

= 2.25 hours (1) (on Tuesday)

Convert hours to minutes by multiplying 60

0.25 x 60 = 15 minutes

Hours on Tuesday = 2 hours 15 minutes

Hours on Monday = 3 hours

Total time on Monday and Tuesday: 5 hours 15 minutes (1)

5 hours 15 minutes is less than 5 hours 20 minutes.

Yes, Lizzie is correct. (1)

```
   2.25
16 ) 36
     32
     40
     32
      80
      80
```

**(3)**

**(Total for Question 37 is 5 marks)**

**38** Mrs Simpson organised a school trip for 66 children.

The total cost of the trip was £1800
The school paid 56% of the total cost.
The rest of the total cost was divided equally between the 66 children.

Work out how much money each child paid.

Finding the total cost covered by school :

$\frac{56}{100} \times £1800 = £1008$

Finding rest of the cost :

$£1800 - £1008 = £792$ (1)

Finding cost paid by each child :

$£792 \div 66 = £12$ (1) (1)

£ 12

**(Total for Question 38 is 3 marks)**

**39** Aisha was born in 1993

There was an election in the year of Aisha's 18th birthday.

There is an election every 5 years.

Will there be an election in 2030?
You must show how you get your answer.

$1993 + 18 = 2011$ (1)

$2030 - 2011 = 19$ (1)

↳ not divisible by 5

No, there won't be an election in 2030 because 19 is not divisible by 5 (1)

**(Total for Question 39 is 3 marks)**

**40** Lucia is going on a skiing holiday.

The cost of ski hire is £26 per day.
The cost of a lift pass is £45 per day.
The cost of ski lessons is £23.50 per hour.

Lucia will pay for

ski hire for 5 days
a lift pass for 4 days
ski lessons for 8 hours.

Lucia has £500

Show that Lucia has enough money to pay for the total cost of ski hire, the lift pass and the ski lessons.

ski hire = £26 / day
lift pass = £45 / day
ski lessons = £23.50 / hour

what Lucia need = ski hire for 5 days : £26 x 5 = £130
lift pass for 4 days : £45 x 4 = £180
ski lessons for 8 hours : £23.50 x 8 = £188 (1)

Total cost : £130 + £180 + £188
= £498 (1)

£498 is less than £500. Lucia has enough money to pay for the total cost. (1)

**(Total for Question 40 is 3 marks)**

**41** There are 8 episodes in a TV series.
Each episode lasts 45 minutes.

1 hour = 60 minutes

Work out the total time that the 8 episodes last.
Give your answer in hours.

1 episode : 45 minutes
8 episodes = 45 x 8 = 360 minutes (1)

360 minutes ÷ 60 = 6 hours

6 (1) ..... hours

**(Total for Question 41 is 2 marks)**

**42** Habib has two identical tins.

He puts 600 grams of flour into one of the tins.
The flour fills the tin completely.
The density of the flour is 0.6 g/cm$^3$

Habib puts 600 grams of salt into the other tin.
The salt does **not** fill the tin completely.
The volume of the space in the tin that is **not** filled with salt is 700 cm$^3$

Work out the density of the salt.
You must show all your working.

Density : $\frac{\text{Mass}}{\text{Volume}}$

Volume of tin : $\frac{\text{Mass}}{\text{Density}}$

$= \frac{600}{0.6}$

$= 1000\ \text{cm}^3$ (1)

Volume of salt : $1000 - 700$

$= 300\ \text{cm}^3$ (1)

Density of salt $= \frac{600}{300}$ (1)

$= 2\ \text{g/cm}^3$

2 (1)

..... g/cm$^3$

**(Total for Question 42 is 4 marks)**