

Mark schemes

Q1.

Award **TWO** marks for the correct answer of 60

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

- Ate 10, gave away 5

Ate 40, gave away 20

Ate 40 + 20 = wrong answer

- $40 \div 10 = 4$

$4 \times 5 = 20$

$20 + 40 =$ wrong answer

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2
U1

[2]

Q2.

108

[1]

Q3.

1:4

Accept other equivalent ratios, e.g. 2:8 or 0.5:2

Do not accept reversed ratios, e.g. 4:1 or 8:2

[1]

Q4.

Award **TWO** marks for the correct answer of 75

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

- $125 \div 50 = 2.5$

$2.5 \times 30 =$ wrong answer

OR

- 50g oats 30g raisins

25g oats 15g raisins ($\div 2$)

125g oats wrong answer ($\times 5$)

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2

[2]

Q5.

75 and 48 in either order

! Ratios given in each box, ie:

48 : 60 and 60 : 75

Condone, for 2m or 1m

2

or

Gives one correct value

1

[2]

Q6.

£140

***Do not** accept 140%*

[1]

Q7.

Award **TWO** marks for the correct answer of 3.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- $2.5 \times 6 = 15$
 $15 \div 5$

*Answer need not be obtained for the award of **ONE** mark.*

*Misreads are **not** allowed.*

Up to 2m

[2]

Q8.

Award **TWO** marks for the correct answer of 12.5

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- $250 \div 20$

OR

- 20 km is 1 cm

100 km is 5 cm
50 km is 2.5 cm
5 cm + 5 cm + 2.5 cm

*Answer need not be obtained for the award of **ONE** mark.*

Do not accept incorrect proportions in any step without evidence of the calculation performed.

Up to 2m

[2]

Q9.

160

2

or

32 seen (*number who play tennis*)

Do not accept 32% seen

OR

Shows or implies a complete correct method, eg:

- $8 \times 4 \times 5$
- 25% of tennis is 8
 $8 \times 4 = 24$ (*error*)
tennis is 20% of sports club
 $24 \times 5 = 120$

1

[2]

Q10.

75

[1]

Q11.

Award **TWO** marks for the correct answer of 9

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- $6 \times 6 \times 6 = 216$
 $216 \div 6 = 36$
 $36 \div 4$

OR

- $216 \div 24$

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

Q12.

Award **TWO** marks for the correct answer of 90g.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g:

$$\bullet \quad 300 \div 400 = \frac{3}{4}$$

$$\frac{3}{4} \times 120$$

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[2]

Q13.

Award **TWO** marks for a correct answer of 30

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

- 10% of 200 = 20
- 25% of 200 = 50
- 50 – 20 = wrong answer

OR

- 25% – 10% = 15%
- 15% of 200 = wrong answer

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2m

[2]

Q14.

Masses in correct order, as shown:

0.009 kg	0.99 kg	1.025 kg	1.25 kg
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lightest

*All masses must be in the correct order for the award of **ONE** mark.*

*Accept for **ONE** mark the masses written in reverse order **AND** the label lightest has been changed to follow suit.*

*Misreads and transcription errors are **not** allowed.*

[1]

Q15.

An explanation which recognises that 10% of 55 is not a whole number, eg:

- '10% of 55 is $5\frac{1}{2}$, and you can't have $5\frac{1}{2}$ people'
- 'It wouldn't be a whole number of people'
- 'No whole number out of 55 will give you 10%'
- 'If it was 5 people, 5 out of 55 isn't 10%.
6 out of 55 isn't 10% either'
- 'Because you can't have half a person.'
- ' $5\frac{1}{2}$,

Do not accept vague or incomplete explanations, eg:

- 'You can't get 10% of 55'
- 'Some children write with both hands'.

U1

[1]

Q16.

Two combinations, as shown:

blue and red **OR** red and blue

AND

white and red **OR** red and white.

[1]

Q17.

Award **THREE** marks for the correct answer of 14

If the answer is incorrect, award **TWO** marks for:

- sight of 414 as evidence of 23×18 completed correctly

OR

- evidence of an appropriate method with no more than one arithmetic error, e.g.

$$20 \times 20 = 400$$

$$\begin{array}{r}
 23 \\
 \times 18 \\
 \hline
 230 \\
 184 \\
 \hline
 314 \text{ (error)}
 \end{array}$$

$$400 - 314 = 86$$

Award **ONE** mark for evidence of an appropriate method.

*Answer need not be obtained for the award of **ONE** mark.*

A misread of a number may affect the award of marks. No marks are awarded if there is more than one misread or if the mathematics is simplified.

***TWO** marks will be awarded for an appropriate method using the misread number followed through correctly to a final answer.*

***ONE** mark will be awarded for evidence of an appropriate method using the misread number followed through correctly with no more than one arithmetic error.*

Up to 3m

[3]

Q18.

125

[1]

Q19.

Award **TWO** marks for three correct numbers, as shown:

Award **ONE** mark for:

- any **TWO** numbers correctly placed

OR

- if box 1 is correct, accept correct follow-through for box 3 from the incorrect value in box 2.

***Do not** accept misreads for this question.*

Up to 2m

[2]

Q20.

Award **ONE** mark for any pair of whole numbers less than 10 that satisfy the equation, i.e.

$$x = 8 \text{ AND } y = 6$$

OR

$$x = 6 \text{ AND } y = 7$$

OR

$$x = 4 \text{ AND } y = 8$$

OR

$$x = 2 \text{ AND } y = 9$$

[1]

Q21.

Second box only ticked correctly, as shown:

number of tickets \times 3 + 24	<input type="checkbox"/>
number of tickets \times 24 + 3	<input checked="" type="checkbox"/>
number of tickets + 3 \times 24	<input type="checkbox"/>
number of tickets + 24 \times 3	<input type="checkbox"/>

Accept alternative unambiguous positive indication of the correct answer, e.g. Y.

[1]

Q22.

Numbers in order as shown:

<input type="text" value="0.34"/>	<input type="text" value="43%"/>	<input type="text" value="0.7"/>	<input type="text" value="3/4"/>
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Accept use of equivalent fractions, decimals or percentages, eg 0.34, 0.43, 0.7, 0.75

[1]

Q23.

An explanation which recognises that 40% of the number must be

multiplied by $2\frac{1}{2}$, or equivalent, eg:

- 'You multiply by 2.5'
- 'Halve it and multiply by 5'
- 'Divide by 4 to get 10% and then multiply by 10'

- 'Divide by 40 then multiply by 100'
- 'If you had 100, quarter of 100 is 25, then times by 10 to get 250'
- 'Double it and add half of it'.

Do not accept vague or incomplete explanations, eg:

- 'Start with the original number and find 40% of it'
- 'Find 10% and multiply by 10'
- 'Divide by 4 to find 10% and then you can find 100%'
- 'Find 1% and multiply by 100'
- 'If you had 20 it would be 50'
- 'Add 60%'

U1

[1]

Q24.

Award **ONE** mark for the correct box ticked, as shown:

Tick **one**.

$10 + a$	
$10 \div a$	
$a - 10$	
$10 - a$	✓
$a \times 10$	

Accept alternative unambiguous positive indication of the correct answer, e.g. Y.

[1]

Q25.

5 cm

2
U1

or

Answer of 2.5

OR

Shows understanding of a correct method even if there are computational errors, eg

- $90 \div 3 = 36$ (error)

$$12 \div 2 = 6$$

$$36 \div 6 = 6$$

1

Q26.

11

Accept 11 cm²

[1]

Q27.A rectangle with area 6 cm²*A rectangle must be drawn but need not be shaded.*

[1]

Q28.

A

Accept alternative unambiguous positive indications of the correct triangle, e.g. $2\frac{1}{2}$ or 2.5.

[1]

Q29.

24

[1]

Q30.

(a) An explanation that shows that one quarter of 240 is more than one half of 80, eg:

- 'Because only 40 are walking to Foxwood and 60 are walking to Midtown'
- 'Half of the people who walk is 40 and a quarter of the people who walk is 60'

*No mark is awarded for circling 'No' alone.****Do not** accept vague or incomplete explanations, eg:*

- 'Because at Foxwood it's a half and at Midtown it's a quarter'
- 'Because there are 80 children at Foxwood and 240 children at Midtown'

*If 'Yes' is circled but a correct unambiguous explanation is given then award the mark.*1
U1(b) Award **TWO** marks for the correct answer of 50

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

$$240 \div 3 = 80$$

$$240 - 80 - 60 = 100$$

$$100 \div 2$$

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[3]

Q31.

35%

[1]

Q32.

352

Do not accept 352%

[1]

Q33.

38

[1]

Q34.

(a) Gives three integers other than 2, 2, 6 (in any order) whose product is 24, eg:

- 1, 1, 24
- 1, 24, 1
- 1, 2, 12
- 1, 3, 8
- 1, 4, 6
- 2, 3, 4

! Non-integer(s) used

As this shows understanding of volume, condone provided the three values given have a product of 24

eg, accept

- 1.5, 2, 8

1

(b) 7

1

[2]

