Q1.

$\frac{3}{5}$

B1

[1]

Q2.

200 (cm) or 0.25 (m)
or 0.03 (kg) or 2000 (g)

oe

If units seen they must be correct

B1

$\frac{25}{200}$ or $\frac{1}{8}$
or $\frac{30}{2000}$ or $\frac{3}{200}$
or $\frac{11}{100}$

oe

M1

$\frac{250}{2000}$ and $\frac{30}{2000}$ and $\frac{220}{2000}$

oe

Common denominator with at least 2 correct numerators

M1

$\frac{250}{2000}$ and $\frac{30}{2000}$ and $\frac{220}{2000}$

oe

Fractions in comparable form

A1

30 grams (as a fraction of 2 kilograms)

Must see a correct comparison

A1

Additional Guidance

200 g

B0

30 grams as a fraction of 2 kilograms with no other working

B0M0

[5]

Q3.

(a) 450 ÷ (2 + 7) or 50

oe

M1

100

A1

(b) 210 ÷ 7 or 30
or 7 ÷ 2 or 3.5
or 80 ÷ 2 or 40

M1

their 30 × 2
or 210 ÷ 3.5 or 60
or 9 × their 30
or their 40 × 7 or 280

M1dep

270 ml

SC1 for 360

A1

[5]

Q4.

Attempts to process one piece of information

eg 2 : 9 or 4 : 16

0.22… or 0.25

$\frac{6}{27}=\frac{2}{9}$ *or* $\frac{8}{32}=\frac{4}{16}$

$\frac{6}{27}\times 100$ *or* $\frac{8}{32}\times 100$

$\frac{24}{108}$ *or* $\frac{24}{96}$ $\frac{192}{864}$ *or* $\frac{216}{864}$

or 8 goals in 32 games is 1 goal every 4 games

$4\frac{1}{2}$ *or 4*

oe

M1

Writes both pieces of information in a form that allows for comparison

eg 2 : 9 and 2 : 8

0.22 … and 0.25

(1 : 4.5 and 1 : 4 are acceptable)

$4\frac{1}{2}$ *and 4*

$\frac{2}{9}$ *and* $\frac{2}{8}$ $\frac{24}{108}$ *and* $\frac{24}{96}$

$\frac{8}{36}$ *and* $\frac{9}{36}$ $\frac{192}{864}$ *and* $\frac{216}{864}$

oe

A1

Correct decision from their working

Strand (iii) Dependent on M1

Q1

[3]

Q5.

270 ÷ (3 + 2 + 1)

M1

45

No wrong working seen

A1

135, 90, 45

ft their 45 if all values correctly evaluated
Values must be written in order
Correct answer only full marks
Incorrect answer only with 45 as a part ratio is not M1, A1
***NB** Build up method must be fully correct*

A1ft

Additional Guidance

Be careful of correct answers from wrong work.

eg 270 ÷ 3 = 90, 270 ÷ 2 = 135, 270 ÷ 1 = 270 135 : 90 : 270

M0

eg 270 ÷ 3 = 90, 270 ÷ 2 = 135, 90 ÷ 2 = 45, 135 : 90 : 45

M0

270 ÷ 6 = 35
105 : 70 : 35

M1, A0
A1ft

270 ÷ 6 = 45
145 : 90 : 45

M1, A1
A0

270 ÷ 6 = 45
45 : 135 : 90

M1, A1
A0

270 ÷ 6 = 41.2
123.2 : 82.4 : 41.2

M1, A0
A0ft

270 ÷ 6 = 41.2
123.6 : 82.4 : 41.2
124 : 82 : 41

Ignore rounding after correct ft

M1, A0
A1ft

270 ÷ 6 = 41.2
124 : 82 : 41

Answer do not ft.
No intermediate values

M1, A0
A0ft

135 : 45 : 90

No working, not in order

M0

145 : 90 : 45

No working, not correct

M0

3 + 2 + 1 = 5
270 ÷ 5 = 54
162 : 108 : 54

No working, not in order

M1, A0
A1ft

270 ÷ 5 = 54
162 : 108 : 54

M0

[3]

Q6.

Alternative method 1

1 part = 6 bricks

oe

M1

36 (yellow, blue and green)

A1

12 (red)

B1

36 + 12 = 48

B1

Alternative method 2

12 (red)

B1

36 ÷ 6 or 6

M1

their 6 × 2

M1dep

12 (yellow)

A1

Alternative method 3

6 parts = 75%

M1

8 parts = 100%

A1

1 part = 6 bricks

B1

8 × 6 = 48

B1

[4]

Q7.

600 ÷ (9 + 6 + 5) (= 30)

M1

their 30 × 9 or their 30 × 6

or their 30 × 5

M1 dep

270 : 180 : 150

In any order

A1

[3]

Q8.

450 ÷ 2 or 225

450 ÷ 4 or 112.5

450 × 7 or 3150

450 × 14 or 6300

450 × 3 or 1350

450 × 4 or 1800

oe

M1

their 225 × 7, their 112.5 × 14

their 225 × 7, their 112.5 × 14 their 3150 ÷ 2, their 6300 ÷ 4

their 3150 ÷ 2, their 6300 ÷ 4

their 1350 + 450 ÷ 2

their 1800 − 450 ÷ 2

or equivalent complete method scores M2

M1

1575

A1

[3]

Q9.

$\frac{3}{4}$

B1

[1]

Q10.

$\frac{3}{8}$

B1

[1]

Q11.

(a) Janet **and** reason eg

She has (4) more tickets

She has 5 times the chance

oe correct comparative statement

B1

(b) 5 ÷ 300 seen or $\frac{5}{300}$ seen

oe May be implied by 5 out of 300, 5 in 300, 1 out of 60, 1 in 60 etc

Ratio is M0

M1

$\frac{1}{60}$

Must be a fraction

A1

(c) 120 ÷ 6 or 6 × 20 = 120

oe Builds up to 100 : 20

M1

20

SC1 100

A1

[5]

Q12.

(a) Probability of red is not $\frac{1}{3}$

or

Probability of red is $\frac{1}{4}$

oe

B1

He should multiply the fractions, not add them

oe

SC1 gives correct answer of $\left(\frac{1}{4} \times \frac{1}{4}\right) = \frac{1}{16}$ *with no reference to Jack's method*

B1

(b) $\frac{1}{\sqrt{25}}$ or $\frac{1}{5}$

M1

360 × their $\frac{1}{5}$

M1dep

72

A1

[5]

Q13.

Alternative method 1 of 6

$64 \times \frac{3}{8}$ or 24

or

$78 \times \frac{7}{13}$ or 42

or

$6 \times 78 \times \frac{7}{13}$ or 252

oe

$64 \times \frac{5}{8}$ or 40

or

$78 \times \frac{6}{13}$ or 36

or

$6 \times 78 \times \frac{6}{13}$ or 216

M1

$64 \times \frac{3}{8} + 6 \times 78 \times \frac{7}{13}$
or their 24 + their 252
or 276

oe

$64 \times \frac{5}{8} + 6 \times 78 \times \frac{6}{13}$

or their 40 + their 216

or 256

M1dep

64 + 6 × 78 or 64 + 468 or 532

M1

their 532 ÷ 2 or 266

dep on 3rd method mark only

M1dep

266 and 276 and Yes
or
266 and 256 and Yes

A1

Alternative method 2 of 6

$64 \times \frac{3}{8}$ or 24
or
$78 \times \frac{7}{13}$ or 42
or
$6 \times 78 \times \frac{7}{13}$ or 252

oe

$64 \times \frac{5}{8}$ or 40

or

$78 \times \frac{6}{13}$ or 36

or

$6 \times 78 \times \frac{6}{13}$ or 216

M1

$64 \times \frac{3}{8} + 6 \times 78 \times \frac{7}{13}$

or their 24 + their 252
or 276

oe

$64 \times \frac{5}{8} + 6 \times 78 \times \frac{6}{13}$

or their 40 + their 216
or 256

M1dep

64 + 6 × 78 or 64 + 468 or 532

M1

their 532 – their 276

dep on M1M1M1
their 532 – their 256

M1dep

256 and 276 and Yes

A1

Alternative method 3 of 6

$64 \times \frac{3}{8}$ or 24

or

$78 \times \frac{7}{13}$ or 42

or

$6 \times 78 \times \frac{7}{13}$ or 252

oe

$64 \times \frac{5}{8}$ or 40

or

$78 \times \frac{6}{13}$ or 36

or

$6 \times 78 \times \frac{6}{13}$ or 216

M1

$64 \times \frac{3}{8} + 6 \times 78 \times \frac{7}{13}$

or their 24 + their 252

or 276

oe

$64 \times \frac{5}{8} + 6 \times 78 \times \frac{6}{13}$

or their 40 + their 216

or 256

M1dep

64 ÷ 2 or 32

and

(6 × 78) ÷ 2 or 468 ÷ 2 or 234

M1

their 32 + their 234 or 266

dep on 3rd method mark only

M1dep

266 and 276 and Yes

or

266 and 256 and Yes

A1

Alternative method 4 of 6

$64 \times \frac{3}{8}$ or 24

or

$78 \times \frac{7}{13}$ or 42

or
$6 \times 78 \times \frac{7}{13}$ or 252

oe

M1

$64 \times \frac{3}{8} + 6 \times 78 \times \frac{7}{13}$
or their 24 + their 252
or 276

oe

M1dep

64 + 6 × 78 or 64 + 468 or 532

M1

their 276 ÷ their 532 or 0.51… or 0.52
or
their 532 ÷ their 276 or 1.9… or 1.93

oe

dep on M1M1M1

M1dep

532 and 276 and 0.51… or 0.52 and Yes
or
532 and 276 and 1.9… or 1.93 and Yes

A1

Alternative method 5 of 6

$64 \times \frac{3}{8}$ or 24
or
$78 \times \frac{7}{13}$ or 42
or
$6 \times 78 \times \frac{7}{13}$ or 252

oe

$64 \times \frac{5}{8}$ or 40

or

$78 \times \frac{6}{13}$ or 36

or

$6 \times 78 \times \frac{6}{13}$ or 216

M1

$64 \times \frac{3}{8} + 6 \times 78 \times \frac{7}{13}$
or their 24 + their 252
or 276

oe

$64 \times \frac{5}{8} + 6 \times 78 \times \frac{6}{13}$

or their 40 + their 216

or 256

M1dep

their 276 × 2 or 552

their 256 × 2 or 512

M1dep

64 + 6 × 78 or 64 + 468 or 532

M1

532 and 552 and Yes
or
532 and 512 and Yes

A1

Alternative method 6 of 6

$\frac{1}{2} - \frac{3}{8}$ or $\frac{1}{8}$

or

$\frac{7}{13} - \frac{1}{2}$ or $\frac{1}{26}$

oe

M1

64 × their $\frac{1}{8}$ or 8 (under)
or
78 × their $\frac{1}{26}$ or 3 (over)

oe

M1dep

78 × their $\frac{1}{26}$ × 6 or 18 (over)

oe

M1dep

64 × their $\frac{1}{8}$ or 8 (under)
and
78 × their $\frac{1}{26}$ × 6 or 18 (over)

oe

May be subtracted

M1dep

8 under (half) and 18 over (half) and Yes
or
10 over (half) and Yes

A1

Additional Guidance

Condone $\frac{24}{64}$ for 24 or $\frac{42}{468}$ for 42 or $\frac{252}{468}$ for 252 for first method mark

276 and 10 over (266) and Yes implies 266 and 276 and Yes

M1M1M1M1A1

In Alt 2 256 and 276 and Yes

M1M1M1M1A1

In Alt 4 accept working with unused seats leading to
their 256 ÷ their 532 or 0.4… or 0.49
or their 532 ÷ their 256 or 2.07… or 2.08

[5]

Q14.

(a) 250 ÷ 5 × 4 or 200
or 250 ÷ 5 or 50
oe

M1

200 and 50

A1

Additional Guidance

Sand 50 and Cement 200

M1A0

250 ÷ 5 = 50, 250 ÷ 4 = 62.5, Sand 62.5, Cement 50

M1A0

Allow transcription error of clear in the working

(b) **Alternative method 1**

25 × 3 or 75
Total cement
or 25 × 4 or 100
Sand
or 25 × 5 or 125
Mix

M1

25 × 3 × 4 or 300
or 75 × 4 or 300
or 25 × 4 × 3 or 100 × 3 or 300
Total sand

or 75 × 5
or 25 × 5 × 3
or 125 × 3
Total mix

M1dep

375

A1

Alternative method 2 (uses part (a))

25 + 50 or 75
Total cement

or 200 ÷ 2 or 100
Sand

or (200 + 50) ÷ 2 or 125
Mix

M1

100 + 200 or 300
Total sand

or 25 + 50 + 100 + 200
Total mix

or 125 + 250
Total mix

M1dep

375

A1

Alternative method 3 (uses part (a))

Scale factor 1.5 seen or implied,

eg $\frac{75}{50}$ or 50 × 1.5 or 75

M1

200 × 1.5 or 300
Total sand

or 250 × 1.5
Total mix

M1dep

375

A1

[5]

Q15.

(a) $\frac{392}{7}$ × 2
oe

M1

112
SC1 504

A1

(b) $\frac{8}{11}$ or 0.72... or 0.73

oe or 72(...)% or 73%

B1

[3]

Q16.

(a) 720 ÷ 6 or 120

720 ÷ 6 × 5 or 600

M1

600 and 120

A1

Additional Guidance

120 and 600 (order reversed)

M1A0

(b) 135 + 70 + 35 or 240

M1

their 240 ÷ 6 or 40

M1dep

2 × *their* 40 or 80

M1dep

10

ignore fw

A1

Additional Guidance

Gemma 10, Beth 5, answer 15 scores full marks

M1M1M1A1

(120 and) 80 and 40 may be written next to the 3 : 2 : 1 in the question

M1M1M1A0

Beware of 10 from incorrect working

e.g. 135 ÷ 3 = 45, 70 ÷ 2 = 35, 35 ÷ 1 = 35, answer 10 scores 0

M0M0M0A0

[6]

Q17.

35 : 21 and 21 : 12

or

5 : 3 : $\frac{12}{7}$ or $\frac{35}{7}$: $\frac{21}{7}$: $\frac{12}{7}$

or

$\frac{35}{3}$: 7 : 4 : or $\frac{35}{3}$: $\frac{21}{3}$: $\frac{12}{3}$

Any correct pair of ratios where the values for women are equal

or

a correct three-part ratio

M1

their 35 + their 21 + their 12 or 68
or their 21 + their 12 or 33

Could be multiples of these numbers

M1dep

35 ÷ 68 = 0.51… or 51…%
or
35 and (half of 68 is) 34
or
35 (men) and 33 (women and children)

oe

A1

[3]

Q18.

Alternative method 1

24 + 276 or 300

M1

$\frac{24}{\text{their } 300}$ or 0.08

oe eg 8%

M1

8% and the doctor is correct
or
Two correct comparable values
and
The doctor is correct

eg 0.08 and 0.16

$\frac{48}{300}$ *and* $\frac{24}{300}$

48 : 300 and 24 : 300

A1

Alternative method 2

24 + 276 or 300

M1

$\frac{\text{their } 300}{24}$ or 12.5

M1

Two correct comparable values
and
The doctor is correct

eg 12.5 and 6.25

$\frac{300}{48}$ *and* $\frac{300}{24}$

300 : 48 and 300 : 24

A1

Alternative method 3

24 + 276 or 300

M1

0.16 × their 300

M1dep

48 from correct method and 24
and
The doctor is correct

A1

Additional Guidance

In alt 2, 12.5% and 6.25% instead of 12.5 and 6.25 cannot get the accuracy mark

M1M1A0

[3]

Q19.

455 ÷ (1 + 2 + 4) (= 65)

oe

M1

4 × their 65

$\frac{4}{7}$ × *455 scores M2*

M1 dep

260

Accept 65 : 130 : 260

A1

[3]

Q20.

(a) 23 + 9 + 20 or 52
or 48

oe

M1

their 48 ÷ 3 (× 2) or 16 or 32

M1dep

23 + their 16 or 39
or 9 + their 32 or 41

M1dep

39 and 41 and B

A1

(b) 612 × 4

or 612 × 5 or 3060

M1

2448

A1

[6]

Q21.

3 : 5

B1 equivalent of 3 : 5 eg 45 : 75
B1 5 : 3
B1 3 : 8

B2

[2]

Q22.

Alternative method 1

a : b = 20 : 24
and b : c = 24 : 33
or a : b : c = 20 : 24 : 33

oe

eg $\frac{a}{5} = \frac{20}{24}, \frac{b}{c} = \frac{24}{33}$

Two correct ratios with a common value for b or one ratio with a common value for b

M1

77

A1

Alternative method 2

$c = \frac{(11 \times 6)a}{(5 \times 8)}$ or $c = \frac{33a}{20}$

oe

Must have a link between a and c

M1

77

A1

Note $b = \frac{6a}{5}$ and $c = \frac{11b}{8}$

[2]

Q23.

Alternative method 1

$\frac{15}{100} \times 49.8(0)$

or 7.47

49.8(0) ÷ 5
or 9.96

oe
0.85 seen

M1

49.8(0) – their 7.47
or 42.33

$\frac{15}{100} \times$ their 9.96
or 1.49(4)

oe
49.8(0) × 0.85
or 42.33

M1dep

their 42.33 ÷ 5
or their 9.96 – their 1.49

or 8.466 or 8.46 or 8.47

M1dep

8.466 or 8.46 or 8.47
and 5 litres

Strand (iii)
ft only for M1M1M0

Q1ft

Alternative method 2

$\frac{15}{100} \times 49.8(0)$
or 7.47

49.8(0) ÷ 5
or 9.96

oe
8.75 × 5 or 43.75
or 1 ÷ 8.75 or 0.114... or 0.11

M1

49.8(0) – their 7.47
or 42.33

$\frac{15}{100} \times$ their 9.96
or 1.49(4)

oe

M1dep

49.8(0) – their 7.47
or 42.33

and 43.75

8.75 + their 1.49(4)
or 10.24(4)

1 ÷ 8.75 or 0.114... or 0.11
and 5 ÷ their 42.33 or 0.118... or 0.12

M1dep

42.33 and 43.75
and 5 litres

9.96 and 10.24(4)
and 5 litres

0.114... and 0.118... and 5 litres
or 0.11 and 0.12 and 5 litres
Strand (iii)
ft only for M1M1M0

Q1ft

Additional Guidance

Allow £49.80 or £42.33 or large can or second can or B for Q mark

Do not accept £50 for £49.80 unless recovered

[4]

Q24.

Alternative method 1

5280 × 12 or 63 360

M1

their 63 360 × 2.54 or 160 934.(…)

M1

1609.(…)
or
160 934.(…) and 160 000

A1

Alternative method 2
160 000 ÷ 2.54 or 62 992.(…)

M1

their 62 992 ÷ 12 (÷ 5280)

M1

5249.(…) which is approximately 5280
or
0.99…

A1

[3]

Q25.

$\frac{16}{64}$ or $\frac{12}{40}$ or 4 : 1 or 4 : 1.2 or 3.3 (3...) : 1

oe

M1

Comparing equivalents
0.25 and 0.3
or 25(%) and 30(%)
or $\frac{10}{40}$ and $\frac{12}{40}$

or 4 : 1 and 4:1.2
or 4 : 1 and 3.3(3...) : 1

with at least 1 correct

oe Eg $\frac{80}{320}$ *and* $\frac{96}{320}$

M1

Both correct **and** Wet track

A1

[3]

Q26.

Alternative method 1 of 5

1.7(0) ÷ 2.5 or 0.68
or
170 ÷ 2.5 or 68

oe

0.51 or 51 implies M1

M1

their 0.68 × 3.25
or
their 68 × 3.25 or 221

oe

M1dep

2.21

A1

Alternative method 2 of 5

2.5 ÷ 1.7(0) or 1.47…
or
2.5 ÷ 170 or 0.0147…

oe

M1

3.25 ÷ their 1.47…
or
3.25 ÷ their 0.0147… or 221

oe

M1dep

2.21

A1

Alternative method 3 of 5

3.25 ÷ 2.5 or 1.3

oe

M1

their 1.3 × 1.7(0)
or
3.25 × 1.7(0) ÷ 2.5

oe

M1dep

2.21

A1

Alternative method 4 of 5

2.5 ÷ 3.25 or 0.769… or 0.77

oe

M1

1.7(0) ÷ their 0.769…
or
1.7(0) ÷ their 0.77

oe

M1dep

2.21

A1

Alternative method 5 of 5

1.7(0) ÷ 10 or 0.17
and
3.25 ÷ 0.25 or 13

oe

M1

their 0.17 × their 13
or
1.7(0) ÷ 10 × their 13

oe

M1dep

2.21

A1

Additional Guidance

Condone 2.21p unless the £ sign has been crossed out

M1M1A1

(£)0.51 or 51(p) is the cost of the extra 0.75 kg of carrots
This implies the first M1 on Alt 1 and achieves the second M1 if added to 1.7(0) or 170

Accept work in grams rather than kilograms

Do not allow a misread of 3.25 kg

[3]

Q27.

Alternative method 1

10 × 20 or 200
and
15 × 12 or 180
and
25 × 6 or 150

M1

10 × 20 + 15 × 12 + 25 × 6
or
their 200 + their 180 + their 150
or 530

M1dep

580 – their 530 or 50 (eggs)

M1dep

54 – (10 + 15 + 25)
or 54 – 50 (boxes)
or 4 (more boxes)
or 1 (+) 2 (+) 1

M1

11 boxes of 20
17 boxes of 12
26 boxes of 6

A1

Alternative method 2

11 boxes of 20
17 boxes of 12
26 boxes of 6

B4 for
11 boxes of 20
16 boxes of 12
28 boxes of 6
or
11 boxes of 20
15 boxes of 12
30 boxes of 6
B3 for 580 eggs placed in boxes with two of these conditions satisfied
at least 10 boxes of 20 eggs
at least 15 boxes of 12 eggs
at least 25 boxes of 6 eggs
B2 for 580 eggs placed in boxes with one of the three

conditions satisfied and at least one of each box

B1 for all three conditions satisfied with 54 boxes but a total number of eggs not equal to 580

B5

Additional Guidance

Fourth M1 mark may be awarded at any stage

10 + 15 + 25 = 50 is a total of boxes and does not score M1M1M1

1 (extra) boxes of 20
2 (extra) boxes of 12
1 (extra) boxes of 6

M1M1M1M1A1

220, 204 and 156 (eggs) on answer line with 11, 17 and 26 (boxes) seen in working

B5

Condone number of eggs on answer line if number of boxes seen in working e.g. 220, 240 and 120 (eggs) on answer line with 11, 20 and 20 (boxes) seen in working

B3

[5]

Q28.

36 ÷ 9 × 11

oe 36 ÷ 9 and 36 + 2 × 4

M1

44

A1

Additional Guidance

Only 36 × 1.2

M0A0

11 ÷ 9 = 1.2 and 36 × 1.2

M1A0

11 ÷ 9 = 1.2 and 36 × 1.2 Answer 43.2 (or 43)

M1A0

11 ÷ 9 = 1.2 and 36 × 1.2 Answer 44 (even after 43.2 seen)

M1A1

Only $\frac{11}{9}$ of 36

M0

$\frac{11}{9} \times 36$

M1

[2]

Q29.

9 and 4

Either order
B1 6, 4 and 3 or 13 seen
or 24 and 31 seen

B2

[2]

Q30.

(a) 1.99 × 6 or 199 × 6 (= 1194)

M1

11.94

SC1 119.40
SC1 12 (.00)

A1

(b) $\frac{1}{2}$

B1 equivalent fraction to $\frac{1}{2}$ *eg* $\frac{30}{60}$

or B1 $\frac{n}{60}$ *seen with its correct simplest form*
SC1 50%
SC1 0.5

B2

(c) 10% circled

Any clear indication

B1

(d) Questionnaire/survey/interview

oe telephone everyone

B1

[6]

Q31.

112 ÷ 210

112 ÷ 210 × 100

M1

132 ÷ 240

132 ÷ 240 × 100

M1

0.53…. **and** 0.55

53…(%) ***and*** *55(%)*

A1

Their 0.53…. **and** their 0.55 **and** Year 11

Their 53….(%) ***and*** *their 55(%)* ***and*** *Year 11*

Strand (iii)
M2 and correct decision for their decimals or percentages

Q1

Alternative 1

210 ÷ 112

210 ÷ 112 × 100

M1

240 ÷ 132

240 ÷ 132 × 100

M1

1.875 **and** 1.8(18…)

*187.5(%) **and** 181.8…(%)*

A1

Their 1.875 **and** their 1.8(18…) **and** Year 11

*Their 187.5(%) **and** their 181.8…(%) **and** Year 11*
Strand (iii)
M2 and correct decision for their decimals or percentages

Q1

Alternative 2

(210 – 112) ÷ 210

(210 – 112) ÷ 210 × 100

M1

(240 – 132) ÷ 240

(240 – 132) ÷ 240 × 100

M1

0.46….. (or 0.47) **and** 0.45

*46….(%) (or 47(%)) **and** 45(%)*

A1

Their 0.46….. (or 0.47) **and** their 0.45 **and** Year 11

*Their 46….(%) (or 47(%)) **and** their 45(%) **and** Year 11*
Strand (iii)
M2 and correct decision for their decimals or percentages

Q1

Alternative 3

210 ÷ (210 – 112)

210 ÷ (210 – 112) × 100

M1

240 ÷ (240 – 132)

240 ÷ (240 – 132) × 100

M1

2.1(4…) **and** 2.2(2…)

*21.4…(%) **and** 22.2…(%)*

A1

Their 2.1(4…) **and** their 2.2(2…) **and** Year 11

*Their 214.(…)(%) **and** their 222.(…)(%) **and** Year 11*

Strand (iii)

M2 and correct decision for their decimals or percentages

Q1

Alternative 4

$\frac{112}{210}$ **and** $\frac{132}{240}$

M1

Equates denominators with at least one correct numerator

M1

$\frac{32}{60}$ **and** $\frac{33}{60}$

oe $\frac{16}{30}$ ***and*** $\frac{16.5}{30}$

A1

Their $\frac{32}{60}$ **and** their $\frac{33}{60}$ **and** Year 11

oe

Strand (iii)

M2 and correct decision for their fractions

Q1

Alternative 5

112 : 210 **and** 132 : 240

M1

Equates one side of ratio with at least one correct on other side

$1 : \frac{210}{112}$ ***and*** $1 : \frac{240}{132}$

$\frac{112}{210} : 1$ ***and*** $\frac{132}{240} : 1$ *oe*

M1

16 : 30 **and** 16.5 : 30

oe

A1

Their 16 : 30 **and** their 16.5 : 30 **and** Year 11

Strand (iii)

M2 and correct decision for their ratios

Q1

Alternative 6

112 : (210 – 112)
and 132 : (240 – 132)

M1

8 : 7 **and** 11 : 9

M1

72 : 63 **and** 77 : 63

oe

A1

Their 72 : 63 **and** their 77 : 63 **and** Year 11

Strand (iii)

M2 and correct decision for their ratios

Q1

Alternative 7

210 : (210 – 112) **and**
240 : (240 – 132)

M1

15 : 7 **and** 20 : 9

M1

135 : 63 **and** 140 : 63

oe

A1

Their 135 : 63 **and** their 140 : 63 **and** Year 11

Strand (iii)

M2 and correct decision for their ratios

Q1

[4]

Q32.

C and three correct comparable values

eg

12(%)	12.5(%)	12.75(%)
0.12	0.125	0.1275
$\frac{48}{400}$	$\frac{50}{400}$	$\frac{51}{400}$
1 : 7.3...	1 : 7	1 : 7.8...
(3 : 22)	3 : 21	3 : 23.5...

B2 for two correct conversions to same comparable form

B1 for one correct conversion to another form

eg

A $\frac{3}{25}$ *oe or 12(%) or 0.12*

B *1 : 7 oe or 12.5(%) or 0.125*

C $\frac{51}{400}$ *oe or 51 : 346 oe or 0.1275*

B3

[3]

Q33.

Alternative method 1

2 parts → 116

oe

M1

116 ÷ 2 × 16

oe

M1

928

A1

Alternative method 2

Writes at least 3 ratios or numbers of boys and girls equivalent to 9 : 7

eg 18 : 14 and 180 : 140 and 360 : 280

M1

522 and 406

M1

928

A1

[3]

Q34.

Alternative method 1

$3x - 6$ and $4x$

M1

$\frac{3x-6}{4x} = \frac{5}{8}$ or $x = 12$

oe

M1

48

A1

Alternative method 2

$a : b$ or $\frac{a}{b}$ equivalent to 3 : 4 with

a and $b > 10$ and $a - 6 : b$

or $\frac{a-6}{b}$ seen

M1

30 : 48 or $\frac{30}{48}$

A1

48

A1

[3]