

M1.

Complete, correct build up method

or

0.51×400

eg $400 \div 2 + 400 \div 100$ oe

M1

204

A1**[2]****M2.****Alternative method 1**

$100 - 40 - 28$ or 32

M1

their $32 \div 100 \times 275$

oe

0.32×275 scores M2

M1dep

88

A1**Alternative method 2**

$40 \div 100 \times 275$ or 110

or

$28 \div 100 \times 275$ or 77

oe

M1

$275 -$ their 110 – their 77

M1dep

88

A1

[3]

M3.

$$0.1 \times 32 \text{ or } 3.2(0)$$

oe

M1

$$32 - \text{their } 3.2(0) \text{ or } 28.8(0)$$

$$0.9 \times 32 \text{ or } 28.8(0) \text{ scores M2}$$

M1dep

$$2000 \div \text{their } 28.8(0) \text{ or } 69.(44\dots)$$

Condone their 28.8 being 32

M1

$$2000 \div 28.5(0) \text{ or } 70.(17\dots)$$

or

$$28.5 \times 70 = 1995$$

M1

69 and 70 seen and 70 chosen

A1

[5]

M4.

$$24 + 45 + 281 + 50$$

or 400

M1

$$0.18 \times \text{their } 400$$

or 72

oe

M1

$$\text{their } 72 - 45 \text{ or } 27$$

M1

23

A1

[4]

M5.**Alternative method 1**

$$60 \times 40 \text{ or } 2400$$

oe

M1

$$\text{their } 2400 - 2000 \text{ or } 400$$

$$\text{or } 2000 - \text{their } 2400$$

M1dep

$$\frac{\text{their } 400}{2000} (\times 100) \text{ or } 0.2$$

oe

M1dep

$$20(\%)$$

A1

Alternative method 2

$$60 \times 40 \text{ or } 2400$$

oe

M1

$$\text{their } 2400 - 2000 \text{ or } 400$$

$$\text{or } 2000 - \text{their } 2400$$

M1dep

10% = 2000 ÷ 10 or 1% = 2000 ÷ 100 **and** correctly finds multiplier using build up or division to find percentage equivalent to total their 400

oe

Correct build up to find percentage equivalent to total their (their 2400 - 2000) or their (2000 - their 2400) implies M3

M1

$$20(\%)$$

A1

Alternative method 3

$$60 \times 40 \text{ or } 2400$$

M1

$$\frac{\text{their } 2400}{2000} (\times 100) \text{ or } 120(\%) \text{ or } 1.2$$

M1dep

$$\text{their } 120 - 100 \text{ or their } 1.2(0) - 1(.00)$$

$$\text{or } 100 - \text{their } 120$$

$$\text{or } 1(.00) - \text{their } 1.2(0) \text{ or } 0.2$$

oe

M1dep

20(%)

A1

Additional Guidance

20% on answer line and no working

M1M1M1A1

480 × 5 (= 2400) from 5 years scores minimum M1

60 × 40 = 1800 and 200 scores minimum M1M1

60 × 40 = 1800 and 200 and $\frac{200}{2000}$

M1M1M1A0

60 × 40 = 1800 and $\frac{200}{2000}$

M1M1M1A0

 $\frac{2000}{\text{their } 2400}$ (= 1.2) does not score second method mark on ALT3

[4]

M6.

$$\frac{150}{500} (\times 100)$$

oe

M1

30

A1

[2]

M7.

$$\frac{30}{100} \times 68 \text{ or } 20.4 \text{ or } 20$$

$$\text{or } \frac{70}{100} \times 68 \text{ or } 47.6 \text{ or } 48$$

oe

M1

$$0.75 \times 55 \text{ or } 41(.25) \text{ or } 41.3$$

oe

M1

15 000 \div 47.6 or 315.(...)
 or 15 000 \div 48
 or [312, 316]

oe

Dependent on 1st M1

M1dep

12 000 \div 41(.25)
 or 12 000 \div 41.3
 or [290, 293]

oe

Dependent on 2nd M1

M1dep

[312, 316] and [290, 293] and A

Q1

Additional Guidance68 - 20.4 = 45.6, 15 000 \div 45.6 = 329 and 291 seen

M1M1M1M1

Q0

[5]

M8.

$$\frac{150}{800} (\times 100)$$

$$\text{or } \frac{150}{650+150} (\times 100)$$

or 0.1875

oe

M1

18.75 or 18.8 or 19

oe

SC1 for 81.25 or 81 or 81.3

A1

Additional Guidance

$$\frac{800}{150}$$

M0

19 with no working

19 is incorrect only if clearly from wrong working

Build up methods score 0 or 2

M1A1

[2]

M9.

49 (%) seen or implied

B1

their $3.22 (\times 10^7) \div 51 (= 1\%)$ or *their* $3.22 (\times 10^7) \div 51 \times 2 (= 2\%)$

$$\text{or } \textit{their} \ 3.22 (\times 10^7) \times \frac{66}{360}$$

oe

[631 372, 631 373]

1 262 745

5 903 333

M1

their $3.22 (\times 10^7) \div 51 \times 49$

$$\text{or } \textit{their} \ 3.22 (\times 10^7) - \frac{3.22 \times 2}{51}$$

$$\text{or } \textit{their} \ 3.22 (\times 10^7) \times \frac{66}{360} \div 51$$

oe

[30 937 254, 30 937 255]

[115 751, 115 752]

M1dep

$$\textit{their} \ 3.22 (\times 10^7) \div 51 \times 49 \times \frac{66}{360}$$

$$\text{or } (\text{their } 3.22 - \frac{3.22 \times 2}{51}) \times \frac{66}{360}$$

oe

M1dep

$$5\,671\,830 \text{ or } [5\,500\,000, 5\,700\,000]$$

oe

A1

$$5.67 \times 10^6 \text{ or } 6 \times 10^6$$

$$\text{or } [5.5 \times 10^6, 5.7 \times 10^6]$$

ft **their** answer which may be rounded and given in standard form

B1ft

Additional Guidance

$\times 10^7$ not required for method marks

Accept decimals to 2 dp or better

[6]

M10.**Alternative method 1**

$$\frac{1500}{600} \text{ or } 2.5$$

$$\text{or } \frac{600}{1500} \text{ or } 0.4$$

oe

M1

$$3.3 \times 2.5 \text{ or } 8.25$$

$$9.6 \div 2.5 \text{ or } 3.84$$

$$\frac{15}{100} \times 9.6 \text{ or } 1.44$$

or 0.85 seen

M1

$$\frac{15}{100} \times 9.6 \text{ or } 1.44$$

or 0.85 seen

$$\frac{15}{100} \times 3.84$$

or 0.576

or 0.85 seen

9.6 – their 1.44
 or 0.85×9.6
 or 8.16

M1

9.6 – their 1.44 or 8.16

or 0.0064×0.85

3.84 – 0.576
 or 0.85×3.84
 their 8.16 $\div 2.5$

M1dep

8.25 and 8.16

3.26 or 3.264 or 3.27

A1

1500 g pack identified

*Strand(iii) correct conclusion for their values provided
 method marks have been awarded*

Q1ft

Alternative method 2

$3.3 \div 600$ or 0.0055 (price per 1g)

$3.3 \div 6$ or 0.55 (price per 100g)

M1

$9.6 \div 1500$ or 0.0064

$9.6 \div 15$ or 0.64

$9.6 \times \frac{15}{100}$ or 1.44

or 0.85 seen

M1

$\frac{15}{100} \times 0.0064$ or 0.00096

or 0.85 seen

$\frac{15}{100} \times 0.64$ or 0.096

or 0.85 seen

9.6 – 1.44

or 0.85×1.44

or 8.16

M1dep

their 0.0064 – their 0.00096

or 0.85×0.0064

or 0.0054(4)

their 0.64 – their 0.096

or 0.85 × their 0.64

or 0.544

8.16 ÷ 15 or 0.544

M1dep

0.0055 and 0.00544

0.55 and 0.544

A1

1500 g pack identified

*Strand(iii) correct conclusion for their values provided
method marks have been awarded*

Q1ft

Alternative method 3

3.3 ÷ 600 or 0.0055 (price per 1 g)

M1

$$\frac{15}{100} \times 9.6 \text{ or } 1.44$$

or 0.85 seen

9.6 ÷ 2.5 or 3.84

$$\frac{15}{100} \times 9.6 \text{ or } 1.44$$

or 0.85 seen

M1

9.6 – their 1.44

or 0.85 × 9.6

or 8.16

$$\frac{15}{100} \times 3.84$$

or 0.85 seen

or 0.576

9.6 – their 1.44

or 0.85 × 9.6

or 8.16

M1

their 8.16 ÷ 1500 or 0.00544

3.84 – 0.576

or 0.85 × 3.84

their 8.16 ÷ 2.5

M1dep

0.0055 and 0.00544

3.26 or 3.27

A1

1500 g pack identified

*Strand(iii) correct conclusion for their values provided
method marks have been awarded*

Q1ft

Alternative method 4

600 ÷ 3.3 or 181.8...

3.30 × 5 or 16.50

M1

 $\frac{15}{100} \times 9.6$ or 1.44

or 0.85 seen

 $\frac{15}{100} \times 9.6$ or 1.44*or 0.85 seen*

M1

9.6 – their 1.44

or 0.85 × 9.6

or 8.16

*9.6 – their 1.44**or 0.85 × 9.6**or 8.16*

M1

1500 ÷ their 8.16 or 183.8...

their 8.16 × 2 or 16.32

M1

181.8... and 183.8 ...

16.32 and 1650

A1

1500 g pack identified

*Strand(iii) correct conclusion for their values provided
method marks have been awarded*

Q1ft

[6]

M11.

Alternative method 1

300 × 0.19 or 57

oe

300 × 19 or 5700

M1

 $\frac{5}{100} \times$ their 57 or 2.85

or 1.05 seen

oe

 $\frac{5}{100} \times$ their 5700 or 285

or 1.05 seen

M1dep

their 57 + their 2.85

or their 57 × 1.05

*their 5700 + their 285**or their 5700 × 1.05 or 5985*

M1dep

59.85

A1

Alternative method 2 $\frac{5}{100} \times 0.19$

or 0.0095

or 1.05 seen

oe

 $\frac{5}{100} \times 19$

or 0.95

or 1.05 seen

M1

their 0.0095 + 0.19

or 1.05 × 0.19

or 0.1995

oe

*their 0.95 + 19**or 1.05 × 19*

or 19.95

M1dep

their 0.1995×300

their 19.95×300 or 5985

or $1.05 \times 19 \times 3$

M1dep

59.85

A1

Alternative method 3

$$\frac{5}{100} \times 300$$

or 15

or 1.05 seen

oe

M1

their $15 + 300$

or 1.05×300

or 315

oe

M1dep

their $0.19 \times$ their 315

$19 \times$ their 315 or 5985

M1dep

59.85

A1

Additional Guidance

Pick out any correct step, e.g.

$$300 \div 19 \times 1.05$$

M1M1M0A0

$$300 \times 0.5 \times 0.19$$

M1M0M0A0

Beware, 10% of 19 = 1.90, 5% of 19 = 0.95, 1.90 + 0.95 = 2.85 (Alt 2)

M1M0M0A0

If a choice of methods is seen, mark the best

[4]

M12.

(a) $25(\%) : 75(\%)$

or $\frac{1}{4} : \frac{3}{4}$

oe

M1

$1 : 3$

SC1 $3 : 1$

A1

(b) $19.5 \div 3$

or $26 \div 4$

or 6.5

oe

$19.5 \div 75 \times 25$

M1

6.50

Correct money notation

A1

Additional Guidance

Condone 6.50p on answer line provided £ sign is not crossed out

M1A1

[4]**M13.**

(a) $£50 \times 0.92$

B1

Alternative method 1

(b) $9 \div 0.45$ or 20

or $9 \div 45$ or 0.2

oe

$5\% = 1 \text{ (kg)} \text{ or } 1\% = 0.2 \text{ (kg)} \text{ or } 10\% = 2 \text{ (kg)}$

M1

their $20 - 9$

or their 0.2×55

oe

$55 \div 5$ or $9 + 2$

M1dep

11

A1

Alternative method 2

$$\frac{y}{9} = \frac{55}{45}$$

oe

e.g. $y : 9 = 55 : 45$

M1

$$9 \times \frac{55}{45}$$

oe

M1dep

11

A1

[4]