

M1.

Alternative method 1

$$100 - 40 - 28 \text{ or } 32$$

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 *oe* 77

M1

275 - their 110 - their 77

M1dep

88

A1

[3]

M2.

$(120 + 80) \div 4$ or $200 \div 4$ or 50

M1

$130 \div 3$ or 40

M1

their 50 - their 40 or 10

	<i>dependent on at least M1</i>	M1dep	
$\frac{10}{80}$ or $\frac{1}{8}$			
	<i>oe fraction</i>	A1	[4]

M3.

Alternative method 1

720 ÷ 20 or 7.2(0) ÷ 0.2(0) or 36
oe

M1

their 36 ÷ 4 × 3 or 27

oe eg $\frac{3}{4} \times 36$

correct method to find $\frac{3}{4}$ of their 36

M1

their 27 × 5 or 135 or their 27 × 0.05
dep on 2nd M1
oe

M1dep

1.35

A1

Alternative method 2

7.20 ÷ 4 × 3 or 5.4(0)

oe eg $\frac{3}{4} \times 7.20$

M1

their 5.4(0) ÷ 20 or 27

M1

their 27 × 5 or 135 or their 27 × 0.05
dep on 2nd M1
oe

M1dep

1.35

A1

Additional Guidance

£135

M1M1M1A0

£ crossed out and 135p

M1M1M1A1

Do not allow further work to add on or subtract from their 27 for third method mark
e.g. $36 \div 4 \times 3 = 27$ followed by $36 + 27 = 63$ and 63×5

M1M1M0A0

Allow rounding, truncation or exact decimal for their 27 in third method mark
e.g. $720 \div 20 = 35$, $35 \div 4 \times 3 = 26.25$, $26 \times 5 (= 130)$

M1M1M1A0

[4]

M4.

Alternative method 1 Price of 40 batteries using packs
 $40 \div 4$ or 10 (packs used in offer A)

and

$40 \div 5$ or 8 (packs used in offer B)

oe

8 is implied by the use of 6 packs in offer B

M1

their 10×2.52 or 25.2(0)

or their $2.52 \div 3 \times 2$ or 1.68

or their 8×2.75 or 22

or $\frac{3}{4} \times 40 \div 5$ or $30 \div 5$ or 6

oe

M1

their $25.2(0) \div 3 \times 2$

or $10 \times$ their 1.68 or 16.8(0)

or $\frac{3}{4} \times$ their 22

or their 6×2.75 or 16.5(0)

oe

M1

16.8(0) and 16.5(0)

oe

A1

(Offer) B

Strand (iii)

ft for correct decision based on their values, with one correct value and first two method marks

Q1ft

Additional Guidance

Allow any correct working in pence up to M3

Allow consistent working in pence for M3 and A1Q1ft

16.8(0) or 16.5(0) or 6×2.75 is minimum M0M1M1

Alternative method 2 Price of 40 batteries using unit price

$2.52 \div 4$ or 0.63

and

$2.75 \div 5$ or 0.55

oe

M1

$40 \times$ their 0.63 or 25.2(0)

or $40 \times$ their 0.55 or 22

oe

M1

their $25.2 \div 3 \times 2$ or 16.8(0)

or $\frac{3}{4} \times 40 \times$ their 0.55

or $30 \times$ their 0.55

or $\frac{3}{4} \times$ their 22 or 16.5(0)

oe

M1

16.8(0) and 16.5(0)

oe

A1

(Offer) B

Strand (iii)

ft for correct decision based on their values, with one correct

value and first two method marks

Q1ft

Additional Guidance

Allow any correct working in pence up to M3
 Allow consistent working in pence for M3 and A1Q1ft
 16.8(0) or 16.5(0) is minimum M0M1M1

Alternative method 3 Price per battery

252 ÷ 4 or 63

and

275 ÷ 5 or 55

oe

M1

their 63 ÷ 3 × 2 or 42

oe

M1

$\frac{3}{4} \times$ their 55 or 41(.25)

oe

M1

42 and 41(.25)

oe

A1

(Offer) B

Strand (iii)

ft for correct decision based on their values, with one correct value and first two method marks

Q1ft

Additional Guidance

Allow any correct working in pounds up to M3
 Allow consistent working in pounds for M3 and A1Q1ft
 42 or 41(.25) is minimum M0M1M1

[5]

M5.(a) 24 (million) – 15 (million)

Subtraction with one value correct

M1

9

Condone 9 000 000

A1

(b) 30

Condone 30 000 000

B1

(c) 28(%) **and** 20 (million) chosen

oe

Implied by correct answer

B1

0.28 × their 20 **or** 20 × $\frac{\text{their 28}}{100}$
oe their 20 can only be 15, 20, 24 or 26 their 28 can only be 12, 15, 28 or 45

M1

5.6

Digits 56 on answer space implies B1M1

Accept rounding to 6 after a correct answer is seen.

Condone 5600000

SC2 4.2 or 6.72 or 7.28

A1

[6]

M6.(a) Yes she's asking people who own dogs so they prefer them

oe

Yes she should ask people who don't own dogs / pets

B1

(b) No preference = 6

B1

$$\text{Cats} = \text{Dogs} \times 2$$

B1

$$\text{Dogs} + \text{Cats} + \text{No preference} = 30$$

8, 16, 6 scores B3

B1

[4]

$$\mathbf{M7.} \frac{3}{5} \times 900$$

or $900 \div 5$ or 180

oe

M1

540

A1

[2]

$$\mathbf{M8.} 0.65 \text{ or } 0.64$$

oe

65(%) or 64(%)

325 and 320

M1

Geography or $\frac{13}{20}$

and e.g. 0.65 and 0.64

must see a comparison for A1

A1

[2]

M9. $360 \div 5 \times 2$

or $360 \div 15 \times 4$

M1

144° sector **drawn**

Tolerance 2°

A1

Major sector divided into two sectors with the larger sector labelled 'No' and the smaller sector labelled 'Don't know'

Strand (ii) Logical organised working

Accept any unambiguous representation of No and Don't know, eg N and D

Q1

[3]

M10.(a) Subtracting two amounts with one correct

$83 - 57.7$

or

83 and 57.7 chosen

$57.7 + 25.3 = 83$

M1

25.3

Condone 25 300 000

A1

(b) $0.21 \times$ their 126 200

oe

Condone any attempt to incorporate the million

Digits 26 502 imply M1

M1

26 502

Condone 26 502 000 000

SC1 99 698

A1

Additional Guidance

Allow the method for 21% of any value from table (or misread)

Possible answers are 17.43, 14.07, 12.117, 11 256, 11 739

Must be using correct value for full marks

Mark the **whole** method so further working will not score (except for those who misread and work out 21% off – see SC1)

(c) $36\,600\,000\,000 \div 29\,300\,000$

or

$36\,600$ (million) \div 29.3 (million)

Digits 1249... or 125... imply M1

M1

1249. ...

May be implied by 1250

A1

1250

ft any answer correctly rounded to the nearest 10

B1ft

[7]

M11.(a) $\frac{30}{100}$ or $\frac{3}{10}$

oe any equivalent fraction eg $\frac{15}{50}$, $\frac{6}{20}$

B1

Additional Guidance

Accept equivalent fractions such as $\frac{15}{50}$, $\frac{6}{20}$ etc

Do not accept decimal answer such as 0.3, 0.30 etc.

Note: $\frac{1}{3}$ in working with $\frac{3}{10}$ on answer line is B1

(b) 0.8 or 0.80

oe decimal

B1

Additional Guidance

Accept 0.8, 0.80, 0.800, 0.8000 etc

Do not accept fraction answer such as $\frac{80}{100}$, $\frac{8}{10}$ etc.

(c) $0.\dot{6}$ and $\frac{66}{99}$

*B1 one correct
or one correct and one incorrect
or two correct and one incorrect
any clear indication*

B2

[4]

M12.(a) 2700 × 8 or 21 600

or 2700 × 0.08

or 216

oe

M1

5850 – 2700

or 3150

oe

M1

$$(5850 - 2700) \times 5$$

or their 3150×5

or 15750

$$(5850 - 2700) \times 0.05$$

or their 3150×0.05

or 157.5

or digits 3735

dependent on 2nd M1

M1dep

$$373.50$$

373.5 implies M3 Q0

Q1

Additional Guidance

373.50p is M1 M1 M1 Q0

(b) 7 (%)

B1

[5]

M13.Packs of 6/Packs of 2

$$1.38 \times 3$$

oe

$$4.17 \div 3$$

M1

$$4.14$$

oe
1.39

A1

2 pack identified

Strand (iii)
ft their values provided method mark has been awarded

Q1ft

Alternative Method 1 Scaling (multiples of 6)

1.38×6 **and** 4.17×2
oe

M1

8.28 **and** 8.34

oe

A1

2 pack identified

Strand (iii)
ft their values provided method mark has been awarded

Q1ft

Alternative Method 2 Price per roll

$1.38 \div 2$ **and** $4.17 \div 6$
oe

M1

0.69 **and** 0.695

oe
*Accept 0.69 **and** 0.7(0)*

A1

2 pack identified

Strand (iii)

ft their values provided method mark has been awarded

Q1ft

Alternative Method 3 Rolls per £

$2 \div 1.38$ **and** $6 \div 4.17$

M1

1.44... **and** 1.43...

A1

2 pack identified

Strand (iii)

ft their values provided method mark has been awarded

Q1ft

Alternative Method 4 Comparing proportions

$4.17 \div 1.38$ and $6 \div 2$

$1.38 \div 4.17$ and $2 \div 6$

M1

3.02 and 3

$0.330...$ or 0.331 and $0.333...$

A1

2 pack identified

Strand (iii)

ft their values provided method mark has been awarded

Q1ft

Additional Guidance

Ignore any units throughout, e.g. 0.69p and 0.695p

Students can scale up to any multiple of 6, e.g. 12, 18, 24, etc.

Scale up to 18:

$1.38 \times 9 \text{ and } 4.17 \times 3$

M1

$12.42 \text{ and } 12.51$

A1

2 pack identified

Q1

Scale up to 24:
 $1.38 \times 12 \text{ and } 4.17 \times 4$

M1

$16.56 \text{ and } 16.68$

A1

2 pack identified

Q1

Alternative method 5:
 $1.38 \times 2 = 2.76 \text{ and } 4.17 - 2.76$

M1

1.41

A1

2 pack identified

Q1

The Q mark can be awarded if the candidate has scored M1 and has made a correct comparison from their two values

Pack of 2 identified with no correct working scores no marks

[3]