Question	Answer	Mark	Comments
1(a)	8	B1	
1(b)	16	B1	
1(c)	Physics and French	B1	either order mark intention eg accept P and F
	Additional Guidance		
	Condone incorrect spelling		
1(d)	All six of the following criteria correct: • width of bar • overall height of bar • correct gap from previous bar • bar split in half horizontally • appropriate shading/labelling • 'history' label correct and in correct place	B2	B1 any 5 of the criteria correct
	Additional Guidance		
	Apply a generous interpretation to their attempt to shade The shading for the boys needs to be darker than the shading for the girls (the part of the bar for the girls can be left unshaded)		
	Accept label(s) of 'boys' and/or 'girls' instead of shading		
	Ignore any numbers on bars, eg labelled 9 and 9		

2	**Alternative method 1**		
	$\frac{450}{65-35}$ or $\frac{450}{30}$ or 15	M1	oe
	(360 – 65 – 35) × their 15 or 260 × their 15	M1dep	oe M2 $\frac{260}{30} \times 450$ or 8.66(…) × 450 or 8.67 × 450
	3900	A1	
	Alternative method 2		
	$\frac{360}{65-35} \times 450$ or $\frac{360}{30} \times 450$ or 12 × 450 or 5400	M1	oe
	$\frac{360-65-35}{360}$ × their 5400 or $\frac{260}{360}$ × their 5400	M1dep	oe eg 0.72(…) × their 5400
	3900	A1	
	Additional Guidance		
	260 ÷ 30 = 8.6 and 8.6 × 450 fully correct working seen		M1M1A0

Q	Answer	Mark	Comments
3	There is an overlap	B1	oe eg 20 can go in two rows
	There is no category above 50	B1	oe eg 53 can't go into the table
	Additional Guidance		
	Criticism of overlapping categories, eg		
	10 (or 20, 30 or 40) can go in two places	B1	
	20 (or 10 or 30 or 40) appears twice	B1	
	Should be 0-9, 10-19, 20-29 etc (minimal implied criticism)	B1	
	0-10; 11-20; 21-30 etc (no criticism)	B0	
	It doesn't give a clear number of cars	B0	
	Repeats the same number (could refer to the number of cars)	B0	
	Criticism of missing categories, eg		
	There is no row for the 53 (or 57)	B1	
	Doesn't go up high enough	B1	
	There's not space for all the numbers	B1	
	Some cars are left out	B1	
	She only put up to 50	B1	
	The last group is not big enough	B1	
	There should be another row (minimal implied criticism)	B1	
	There is a number over 50	B0	
	Cars go up to 57	B0	
	Add another frequency box	B0	
	Drawing another row to the table with no explanation	B0	

Q	Answer	Mark	Comments
4(a)	Linear scale starting at 0 and increasing in 1s or 2s on vertical axis Vertical axis labelled frequency or f or Number or How many Bars or horizontal axis labelled with four types of juice (accept A, G, O, M) Four bars with equal widths Equal gaps or no gaps between the four bars All four heights correct	B3	bar chart could be horizontal bars may be in any order B3 for all criteria met B2 for 4 or 5 criteria met B1 for 3 criteria met or a fully correct 2-bar or 3-bar chart

Additional Guidance	
Mark intention throughout	
If axes and labels do not match the orientation of the bar chart then only criteria 4, 5 and 6 may be awarded	B1 max
All values not needed for axis scale. For example 0 can be implied, but spacing must be linear	
Allow words after 'Number' on axis label, eg 'Number chosen' or 'Number of people'	
Condone a different gap between the vertical axis and the first bar to the other, equal gaps	
If no scale or a non-linear scale is given, bars with heights 6, 1, 4, 5 squares meet the height criterion	
Allow heights criterion if their heights match their labels for their non-linear scale and it is linear between 1 and 6	
Points only or vertical lines can score the marks for criteria 1, 2, 3 and 6	B2 max

Q	Answer	Mark	Comments
5	90 seen or [88°, 92°] drawn on pie chart	M1	 allow missing or incorrect label
	$\frac{20}{60} \times 360$ or 120 seen or [118°, 122°] drawn on pie chart	M1	oe eg $360 \div 3$ allow missing or incorrect label
	Fully correct pie chart with unambiguous labels and all angles ±2°	A1	
	Additional Guidance		
	All three labels (or a key) needed for the A1 but accept eg No, Yes, Rest or N, Y, M or N, Y, R eg for No do not accept 15 (people) or $\frac{1}{4}$ or 90 as the label		
	Not using the given radius will score a maximum of M2		

Q	Answer	Mark	Comments
6(a)	3	B1	allow answer in words

Q	Answer	Mark	Comments
6(b)	**Alternative method 1**		
	2 + 6 + 9 or 17 (2008) or 5 + 8 + 3 or 16 (2012)	M1	oe
	17 and 16	A1	
	Alternative method 2		
	2 – 5 + 6 – 8 + 9 – 3 or –3 – 2 + 6 or 5 – 2 + 8 – 6 + 3 – 9 or 3 + 2 – 6	M1	oe eg 3 more gold, 2 more silver, 6 fewer bronze
	Indication that there was 1 more medal in 2008	A1	oe indication there was 1 less in 2012
	Additional Guidance		
	17 must not be linked with 2012, 16 must not be linked with 2008		
	Ignore further work after correct answer seen		

Q	Answer	Mark	Comments
6(c)	Valid reason	B1	eg 25 is not a multiple of 3 or 25 ÷ 3 is not a whole number or 8 + 8 + 8 = 24 or 9 + 9 + 9 = 27
	Additional Guidance		
	Ignore incorrect or irrelevant statements alongside correct statements, unless contradictory		
	3 is not a factor of 25		B1
	(25 ÷ 3 =) 8.3(…)		B1
	$(25 \div 3 =) 8\frac{1}{3}$		B1
	$3 \times 8 = 24$ or $3 \times 9 = 27$		B1
	It would have to be 8, 8 and 9		B1
	25 divided by 3 is a decimal		B1
	25 can't be (fully) divided by 3 (condone)		B1
	3 doesn't go into 25 (condone)		B1
	25 doesn't fit evenly into 3 (condone)		B1
	The three equal totals would not add up to 25		B1
	None of the equal totals would add up to 25		B0
	There are not 3 whole numbers that add to make 25		B0
	25 is not a factor of 3		B0
	The difference between the possible answers is 3		B0

Q	Answer	Mark	Comments
7(a)	8	B1	

Q	Answer	Mark	Comments
7(b)	1×7 and 2×5 and 3×4 and 4×1 and 5×3 or 7 and 10 and 12 and 4 and 15 or 48	M1	oe allow one error or omission
	$(7 + 10 + 12 + 4 + 15) \div 20$ or $48 \div 20$ or their $48 \div 20$	M1dep	oe eg $\frac{48}{20}$ or $\frac{12}{5}$ or $2\frac{2}{5}$ without working their 48 must be the correct sum of their products
	2.4	A1	SC1 33.75

Additional Guidance

$48 \div 5$	M1M0
$1 \times 7 + 2 \times 5 + 3 \times 4 + 4 \times 1 + 5 \times 5$ (5×5 is one error) $58 \div 20 = 2.9$	M1 M1A0
$8 + 10 + 12 + 4 + 15$ (8 is one error) $49 \div 20 = 2.45$	M1 M1A0
Answer 2 after 2.4 seen	M1M1A0
$7 + 10 + 12 + 4 + 15 \div 20$ not recovered	M1M0
Correct products or values seen but a different method used is a choice of methods eg 7 10 12 4 15 followed by $20 \div 5$ or $20 \div 15$	M0

Q	Answer	Mark	Comments
	Alternative method 1 – using the given scale		
8	(O) $20 \div 5$ or (A) $8 \div 2$ or 4 or (O) $5 \div 20$ or (A) $2 \div 8$ or $\frac{1}{4}$	M1	oe
	their 4×3 or $3 \div$ their $\frac{1}{4}$ or their $4 \times$ their $(5 + 3 + 2) - 20 - 8$ or 12	M1dep	$20 - 8$ implies M2 may be on diagram
	Correct width bar, in the correct position, drawn to height of 12	A1	mark intention, ignore any shading
	Alternative method 2 – using squares		
	(O) $10 \div 5$ or (A) $4 \div 2$ or 2 (squares)	M1	
	their 2×3 or 6 (squares)	M1dep	$10 - 4$ implies M2 may be on diagram
	Correct width bar, in the correct position, drawn to height of 12	A1	mark intention, ignore any shading
	Additional Guidance		
	$(20 + 8) \div (5 + 2)$ $(10 + 4) \div (5 + 2)$		M1 M1

Q	Answer	Mark	Comments
9	$80 - 25$ or 55 or $360 - 80 - 25$ or 255	M1	oe implied by 1 degree = 2.4 people or 5 degrees = 12 people
	$\frac{132}{\text{their } 55} \times 360$ or 864 or $\frac{132}{\text{their } 55} \times 80$ or 192 or $\frac{132}{\text{their } 55} \times 25$ or 60 or $\frac{132}{\text{their } 55} \times$ their 255 or $\frac{132}{\text{their } 55} \times (80 + 25)$ or 252 or their $255 \div \frac{\text{their } 55}{132}$	M1dep	oe 2.4 × their 255 is M2 12 × 51 is M2 2.4 × 105 is M2
	612	A1	
	Additional Guidance		
	Up to M2 may be awarded for correct work, with no answer or incorrect answer, even if this is seen amongst multiple attempts		

Q	Answer	Mark	Comments
10(a)	$360 - 162 - 40 - 90$ or 68 or $x + x + 162 + 40 + 90 = 360$	M1	oe eg $360 - 292$ or $2x + 292 = 360$
	34	A1	
	Additional Guidance		
	$68 \div 2$	M1	
	68 may be embedded for M1 eg $68 + 162 + 40 + 90 = 360$ eg $162 + 40 + 90 + 30 + 38 = 360$ (because 30 and 38 total 68) eg $162 + 40 + 90 + 34 + 34 = 360$ (34 needs to be selected to score A1)	 M1 M1 M1
	34 seen followed by answer 68	M1A0	

Q	Answer	Mark	Comments
10(b)	$\frac{135}{90}$ or 1.5 or $\frac{90}{135}$ or 0.66(…) or 0.67 or any correct method that would lead to answer 243 eg $\frac{162}{90} \times 135$ or $135 \div \frac{90}{162}$ or $\frac{162}{360} \times 135 \times 4$ or 0.45×540 or $135 \times 4 \div \frac{360}{162}$ or $162 + 162 \div 2$ or $135 + 108$	M2	oe M1 linking a correct angle with number of people eg $90 \rightarrow 135$ or $\frac{1}{4} \rightarrow 135$ or $180 \rightarrow 270$ or $72 \rightarrow 108$ or $135 \times 360 \div 90$ or 135×4 or 540 or $\frac{162}{90}$ or 1.8 or $\frac{90}{162}$ or 0.55(…) or 0.56 or $\frac{162}{360}$ or 0.45 or 45% or $\frac{360}{162}$ or 2.22(…)
	243	A1	

Additional Guidance	
Up to M2 may be awarded for correct work with no answer, or incorrect answer, even if this is seen amongst multiple attempts	
M1 may be seen as eg 90 = 135	
If shown on pie chart, just writing 135 in Computer sector is insufficient for M1 unless 90 or $\frac{1}{4}$ also shown	
Allow embedded fraction, even in an incorrect calculation for at least M1 eg $\frac{90}{162} \times 135$ eg $\frac{90}{135} \times 162$	 M1 M2
Build-up must be correct or full method must be shown	
243 from an incorrect method eg 135 + 40 + 68	M0A0

Q	Answer	Mark	Comments
11(a)	$\frac{90-42}{100} \times 24000$ or $\frac{48}{100} \times 24000$ or 11520 or $\frac{42}{100} \times 24000$ or 10080 or $\frac{48-42}{100} \times 24000$ or 6 and 48 and 42 seen	M1	oe
	1440	A1	SC1 1920 or answer with digits 144
	Additional Guidance		
	Up to M1 may be awarded for correct work with no answer, or incorrect answer, even if this is seen amongst multiple attempts		
	Build-up to 48% or 42% must be correct or full method must be shown		
	eg only 48% × 24000 with no or incorrect evaluation		M0

Q	Answer	Mark	Comments
11(b)	Ticks Cannot tell and valid reason	B1	eg ticks Cannot tell and We don't know the number sold (in 2019)
	Additional Guidance		
	Ignore calculations using percentages from the bar chart		
	Allow any unambiguous indication of Cannot tell with a valid reason		
	Ticks Cannot tell and They might have sold fewer drinks (in 2019)		B1
	Ticks Cannot tell and It (only) gives percentages		B1
	Ticks Cannot tell and It doesn't tell you how many coffees were sold		B1
	Ticks Cannot tell and Don't have enough information		B1
	Ticks Cannot tell and Both bars the same height		B0
	Ticks Yes or ticks No		B0

Q	Answer	Mark	Comments
12(a)	1	B1	
	Additional Guidance		
	1 with 10 indicated as the greatest frequency eg 1 scores 10	B1	
	1 (10)	B0	
	1, 10 is the most	B0	
	1 and 10	B0	

Q	Answer	Mark	Comments
12(b)	$(0 \times 7$ and$)$ 1×10 and 2×8 and 3×7 and 4×5 and 5×3 or (0 and) 10 and 16 and 21 and 20 and 15 or 82	M1	allow one error or omission
	$\frac{(0+)\ 10+16+21+20+15}{40}$ or $82 \div 40$ or their $82 \div 40$	M1dep	oe eg $\frac{82}{40}$ or $\frac{41}{20}$ or $2\frac{1}{20}$
	2.05	A1	accept 2.1 or 2 with $82 \div 40$ seen
	Additional Guidance		
	$82 \div 6$ or $82 \div 15$	M1M0	
	$0 \times 7 + 1 \times 10 + 2 \times 8 + 3 \times 7 + 4 \times 5 + 5 \times 2$ (5×2 is one error) $77 \div 40 = 1.925$	M1M1A0	
	$7 + 10 + 16 + 21 + 20 + 15$ (7 is one error) $89 \div 40 = 2.225$	M1M1A0	
	$10 + 21 + 20 + 15$ (16 missing is one omission) $66 \div 40 = 1.65$	M1M1A0	
	$(0+)\ 10 + 16 + 21 + 20 + 15 \div 40$ with missing brackets not recovered	M1M0	
	Correct products or values seen but a different method used is a choice of methods eg (0) 10 16 21 20 15 followed by $40 \div 6$ or $40 \div 15$	M0	

Q	Answer	Mark	Comments
12(c)	$10+8+7+5+3$ or 33 or $40-7$ or 33 or $\frac{7}{40}$	M1	oe
	$\frac{33}{40}$ or 0.825 or 82.5%	A1	oe accept 0.83 or 83%
	Additional Guidance		
	M1 may be awarded for correct work, with no or incorrect answer, even if this is seen amongst multiple attempts		
	Ignore conversion attempt after correct answer seen		
	33 out of 40		M1A0
	33 : 40		M1A0

Q	Answer	Mark	Comments
13(a)	Correct bar in correct position	B1	
	Additional Guidance		
	Mark intention		
	Shading not required		

Q	Answer	Mark	Comments
13(b)	9	B1	

Q	Answer	Mark	Comments
14	(8 + 9 + 9 + 6 + 9 + 10) ÷ 6 or 51 ÷ 6 or 8.5	M1	oe implied by 34
	162 ÷ 360 × 100 or 45	M1	oe
	4 × their 8.5 + their 45 or 34 + 45	M1dep	oe dep on M2
	79	A1	SC2 53.5 or 57.5
	Additional Guidance		
	Check table and pie chart for working		
	34 + 45%		M1M1M1