

Paper 5521/02					
No	Working	Answer	Mark	Notes	
1	Plain Chicken Bovril S & Vin III 8 III 3 III 5 III 4	4 Plain or 8	3 1 1	M1 for attempt to tally A1 for 1 frequency correct or all tallies correct A1 for all frequencies correct (accept for /20) B1 ft B1 ft	
2	See diagram	11 16 Correct lines 12	2 2 2	B1 cao B1 cao B2 cao for both lines correct (B1 for one line correct) B2 cao (B1 for 11 or 13)	
3		580 7.2 Arrow at 48 Arrow at 6.7	1 1 1 1	B1 for 580 (± 2) could be written on line B1 for 7.2 ± 0.02 could be written on line B1 allow \pm half graduation B1 allow \pm half graduation	
4		Cylinder Cuboid	2	B1 ignore spelling B1 ignore spelling	
5	$\pounds 10 - (\pounds 2.15 + \pounds 2.30)$ $\pounds 60 \div \pounds 2.80 = 21.42857$ $120 \times 25 \div 100$	5.55 21 30	4 2 2	M1 $\pounds 2.15 + \pounds 2.30$ A1 for 4.45 M1 $\pounds 10 - "4.45"$ A1 cao M1 for $\pounds 60 \div 2.80$ or sight of digits 214... A1 for 21 M1 $\frac{1}{4}$ of $\pounds 120$ (oe) A1 cao SC B2 for $\pounds 90$	

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6		143 ⁰	2	B1 for 143 ($\pm 2^0$)
(a)(i)		Obtuse		B1 for obtuse (ignore spelling)
(ii)		Accurate	1	B1 for accurate drawing $\pm 2\text{mm}$
(b)	See diagram	drawing		
7		5	2	B1 cao
(a)(i)		23		B1 cao
(ii)	$\times 2 - 1$		1	B1 for explaining a suitable method
(b)	See their diagram		1	B1 for a correct diagram
(c)		14, 17	2	B2 cao for both (B1 for one only ft from their 14)
(d)				
8		90	1	B1 accept -90
(a)		540	1	B1 accept -540
(b)		Jupiter	1	B1 accept -150
(c)		- 230	1	B1 cao
(d)				

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9 (a)	$2658 - 2430 = 228$ $"228" \times 32$	72.96	4	M1 2658 – 2430 A1 228 M1 “228” \times 32 or “228” \times 0.32 or digits 7296 seen A1 cao Or M1 for 2430×32 (or digits 77760 seen) or 2658×32 (or digits 85056 seen) A1 if 1 correct M1 for “85056” – “77760” or 7296 seen A1 cao
(b)	$\frac{2}{5} \times 145 = 58$ 145 – “58”	87	3	M1 $\frac{2}{5} \times 145$ (or M1 $\frac{3}{5}$ seen) A1 58 (or M1 $\frac{3}{5} \times 145$) A1 for 87 ft
(c)(i) (ii)		80 125	2	B1 for 80 (± 1) B1 125 (± 3)

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10 (a) (b)	Height of man \times "2.5"	1.5 – 2.0 3 – 6	1 3	B1 for height between 1.5m – 2.0m inclusive B3 for height between 3m – 6m inclusive (B2 for multiplying (a) by a number between 2 and 3 inclusive) (B1 for multiplying (a) by a number)
11	$61 - 19 = 42$ $42 \div 3 = 14$	14	2	M1 for – 19 or 42 seen A1 cao
12 (a) (b)	$4+5+5+4+3+2+1+4+5 = 38$ mean = $38 \div 10 = 3.8$	5 3.8	1 2	B1 M1 for attempt to add and $\div 10$ or 3.7 or 3.9 seen A1 for 3.8 SC B1 for 33.5 seen
13 (a) (b)		$3x$ $x - 9$	1 1	B1 cao Accept $3 \times x, x^3, x \times 3, x + x + x$ B1 for $x - 9$ cao
14 (a) (b)	$14.44 - 8.660254038$	$5.77974(\dots)$ 6	2 1	M1 for 14.44 seen or 8.66(…) or 5.7 or 5.8 or better rounded or truncated A1 cao B1 ft
15	$15 \div 24$	62.5	2	M1 for $15 \div 24$ or $1500 \div 24$ or sight of digits 625 A1 cao
16	2.10×450	945	2	M1 for digits 210×450 or sight of digits 945 A1 cao
17	See diagram	$2(y+y)$ $2y + 2y$	2	B1 for $2(y+y)$ B1 for $2y + 2y$ (Deduct B1 for each additional tick (>2) to min 0)
18	$360^\circ \div 18 (=20)$ Sector angles: G= 60; S= 80; B=220; Correct sectors labelled correctly Use angle measurer	Angles drawn, labelled	4	B4 for fully correct and labelled pie chart (B3 for all angles correct or for a labelled pie chart with 2 correct angles) (B2 for labelled pie chart with 1 correct angle drawn) (B1 for $360^\circ \div 18$ or 20 seen or implied)

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19		Correct plane Correct net	2 2	B2 for a correct plane defined by showing at least 2 lines. (B1 for a line of symmetry on one face) B2 cao (B1 for 2 equilateral triangles joined appropriately to at least one rectangle or for 1 equilateral triangle joined appropriately to one of 3 rectangles)
		Correct drawing	2	B1 for two extra sides of length 6cm (± 2 mm) B1 for construction arcs 6cm from each of the ends of the given line.
20		15 15	1 1 2	B1 for 15 (± 1) B1 for 15 (± 0.4) B1 horiz. line from (2, 20) to (3, 20) B1 line from (3, 20) to (5,0) or horizontal translation of it SC B1 for any journey ending at (5,0)
21	$x+4+x+x+4+x$	4x+8	2	M1 for attempting to add $x, x + 4, x, x + 4$ may be implied by $4x + a (a > 0)$
	$4x + 8 = 54$ $4x = 46$ $x = 11.5$ Length = "11.5" + 4	15.5	3	A1 for $4x + 8$ or $4(x + 2)$ M1 for "4x + 8" = 54 A1 cao for 11.5 seen B1 ft for "11.5" + 4
22	$0.4 + 0.15$ $1 - "0.55"$	0.45	2	M1 for 1 – sum A1 for 0.45 o.e. SC B1 for 0.81
23	$\pi \times 2.45$	3:1 7.7	1 2	B1 cao M1 for $\pi \times 2.45$ (accept π as 3.1 or better) A1 for 7.59 to 7.70

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24	7×10000	70 000	2	M1 for $7 \times 10\ 000$ or $7 \times 100 \times 100$ A1 cao
25	$5.40 \div 3 \times 7$	12.60	3	M1 for $5.40 \div 3$ or sight of 1.8 M1 dep for "1.80" $\times 7$ A1 for 12.6 or equivalent
26	$7.60 \times \frac{17.5}{100} = 1.33$ $7.60 + 1.33 = 8.93$ 1650 x "8.93"	£14 734.50	4	$\frac{17.5}{100}$ M1 for $7.60 \times \frac{17.5}{100}$ or 1.33 seen or 7.60×1.175 (oe) (Award M1 for 10%, 5% and 2½% correctly calculated) A1 for 8.93 or 893 M1 for 1650 x "8.93" or digits 147345 seen A1 cao Accept 14734.5 Alternative M1 for $1650 \times 7.6(0)$ or 12540 seen M1 for "12540" $\times \frac{17.5}{100}$ or 2194.5 seen or "12540" $\times 1.175$ (oe) (Award M1 for 10%, 5% and 2½% correctly calculated) M1 for "12540" + "2194.5" (dep on both previous method marks) or digits 147345 seen A1 cao accept 14 734.5