Paper 5521_02					
No		Working	Answer	Mark	Notes
1	(a)		1.30	1	B1cao
	(b)		1.05	1	B1cao
2	(a)		27.5	1	B1 accept 27½
	(b)		11	1	B1 cao
3	(a)		27	1	B1 ignore any units
	(b)		3.2	1	B1 ignore any units
	(c)		460 marked	1	B1 for arrow between 455 and 465 inclusive
	(d)		2.8 marked	1	B1 for arrow between 2.75 and 2.85 inclusive
4	(a)	>> marked		1	B1 (accept one arrow)
	(b)	Acute angle marked with *A*		1	B1
	(c)	Reflex angle marked with *R*		1	B1
	(d)		52	1	B1 ± 2º
5	(i)		cone	1	B1 ignore spellings
	(ii)		cuboid	1	B1 ignore spellings
6	(a)		2	1	B1 cao
	(b)		Wednesday	1	B1 cao (ignore spellings, accept abbreviations)
	(c)(i)	Robin 4+5 = 9	9	1	B1 cao
	(c)(ii)	Helen 3+8 = 11		2	B1for sight if 3 and 8 or 11
		Helen watched 2 hours more			B1 for Helen

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7	(a)		8 cm	1	B1 ± 2mm
	(b)			1	B1 ± 2mm use overlay
	(c)			1	B1 for all parts within ± 2mm, use overlay
8	(a)	75p + £1.70	2.45	1	B1 cao
	(b)	2 × 75p + 1.35	2.85	2	M1 for 2 × 75p + £1.35 or digits 285 seen A1 for 2.85 (SC B1 for 2.10 or 210p)
	(c)	£5 – (85p+£1.70) £5 – £2.55	2.45	2	M1 for £5 – (85p+£1.70) or digits 245 seen (ignore units) A1 cao (SC B1 for £5 – "total" correctly calculated)
9	(a)	1,1,4,6,3,3,2		2	B2 for all frequencies correct (B1 for 5 or 6 frequencies correct or all tallies correct)
	(b)		5	1	B1 ft from (a)
	(c)		6	1	B1
10		18 ÷ 20 = 0.9	90p or £0.90	3	M1 for 18 ÷ 20 or valid partitioning method , allow one arithmetic error. A1 for sight of 0.9 or 90 or 0.90 B1 ft for their cost of one litre correctly written as money (SC B1 for £1.11)
11	(i)	2 × £1.50	£3	1	B1 cao
	(ii)	£5 ÷ 2	£2.50	1	B1 cao
	(iii)	£16 × 1½	£24	1	B1 cao
	(iv)	Total =	£42	1	B1 ft from their results

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12	(a)(i)		0.1	1	B1 cao
	(ii)		10%	1	B1 cao
	(b)	12 squares shaded		1	B1 for any 12 squares shaded
13	(a)		A and D	2	B2 for both correct (B1 for 1 correct)
	(b)		B and C	2	B2 for both correct (B1 for 1 correct)
14		$\frac{3}{5}\times 20+\frac{1}{10}\times 20=14$ or $\frac{12}{20}+\frac{2}{20}=\frac{14}{20}$ $20-"14"$ or $1-\frac{"14"}{20}$	6	3	M1 $20 \div 5 \times 3$ or $20 \div 10$ or 12 seen or 2 seen M1(dep)for $20 -$ "14" A1 cao (SC B2 for 14 seen) Alternative M1 for $\frac{12}{20}+\frac{2}{20}$ or sight of $\frac{7}{10}$ M1(dep) for 1 $\frac{"14"}{20}$ or 1- $\frac{7}{10}$ or sight of $\frac{3}{10}$ A1cao
15	(a)		$3c$	1	B1
	(b)		$3e+2f$	1	B1
	(c)		$5a$	1	B1
	(d)		$4xy$	1	B1
	(e)		$2a+7b+8$	2	B2 for $2a + 7b + 8$ (B1 for either 2a or 7b)
16	(a)		150	1	B1 for 150 ± 5
	(b)	It might have rained or they may have run out of ice-cream		1	B1 for valid reason

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17	(a)	200 × 1.40	280	2	M1 for 200 × 1.40 or 28000 seen A1 for 280 cao
	(b)	10.64 ÷ 1.33	8.00	2	M1 for 10.64 ÷ 1.33 A1 for 8 or 8.0 or 8.00
18	(a)	10 × 4.50	45	2	M1 for 10 × 4.50 A1 cao
	(b)	66 ÷ 12	5.50	2	M1 for 66 ÷ 12 A1 for £5.50 accept 5.5
19	(a)	Picture of 4 arrowheads made from 18 matchsticks		1	B1 for any reasonable diagram
	(b)		18 22	2	B1 for 18 B1 for 22 (ft +4 on their 18)
20		4.5 × 2.5	11.25	2	M1 for 4.5 × 2.5 or of digits 1125 A1 for 11.25
		√324	18	2	M1 for √324 A1 for 18
21		960 bricks in $\frac{960}{200}$ = 4.8 hours	4h 48min	3	M1 for $\frac{960}{200}$ or any valid partitioning method leading to 900 A1 for 4.8 seen A1 for 4 hours 48 mins cao (SC B2 for 4 hours 8 minutes or 4 hours 80 mins or B1 for 4 hours< answer< 5 hours)
22	(a)(i)		$\frac{1}{6}$		B1accept equivalent fractions , decimals, or percentages Accept 0.16 or better , 16 % or better
	(ii)		$\frac{1}{2}$		B1 accept equivalent fractions, decimals or percentages
	(iii)		$\frac{1}{3}$		B1 accept equivalent fractions, decimals or percentages Accept 0.33 or better , 33% or better
	(iv)		0		B1 accept 0/6, zero, nought.
	(b)	Ken's dice is biased			B1 for dice is biased, unfair, weighted oe

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23	(a)	$5 + 10 \times 4.50$	50	2	M1 for 10×4.50 or 45 seen A1 for 50
	(b)	$65 - 65 \div 5$	52	2	M1 for $65 \div 5$ oe or 13 seen A1 for 52
	(c)	$50 + \frac{17.5}{100} \times 50$	58.75	2	M1 for $\frac{17.5}{100} \times 50$ oe or 5, 2.5(0) and 1.25 seen or 8.75 seen or digits 5875 seen A1 for £58.75
24	(a)		2	1	B1 cao
	(b)		28	2	M1 for identifying the 16^{th} and 17^{th} values or sight of $(32+1) \div 2$ oe A1 cao
25	(a)	$3.14 \times 50 \times 50$	7854	2	M1 for $\pi \times 50 \times 50$ (accept π as 3.1 or better A1 for 7750 to 7860or 2500π or $\pi 2500$
	(b)	3.14×40	126	2	M1 for $\pi \times 40$ (accept π as 3.1 or better) A1 for 124 to 126 or 40π or 40π
26	(a)		Positive	1	B1 for positive
	(b)			1	B1 for correct line within (50, 50), (50, 60) and (10, 10), (10, 20) Do not accept line joining (10, 10) to (50, 50)
	(c)		approx 47	1	B1 ft for a single line segment with positive gradient ± 1 full (2mm) square
27	(a)		218º	1	B1 ± 2º
	(b)			2	B1 for 320º ± 2º use overlay B1 for 7 cm ± 2 mm use overlay
28		$380 \div 200 = 1.9$ $350 \div 175 = 2$	Rob, less pence per gram	2	M1 for $380 \div 200$ (= 1.9) and $350 \div 175$ (= 2) oe or $200 \div 380$ (= 0.526) and $175 \div 350$ (= 0.5) oe or valid complete method for comparing the two tubs A1 for Rob with correct calculations