Paper 5525_06				
No	**Working**	**Answer**	**Mark**	**Notes**
1	P marked at top left and bottom		2	B2 for both correct (B1 for one correct) (–B1 for each error if more than 2Ps)
2	$36 \div 9$ 1 part = 4 8 : 12 : 16	A 8 B 12 C 16	3	M1 for $36 \div (2+3+4)$ M1 (dep) $2\times$ '4' or $3\times$'4' or $4\times$'4' A1 cao
3 (a)		Overlay (a)	2	B2 for correct triangle with arcs (B1 for correct triangle , no arcs)
(b)		Overlay(b)	2	M1 for 2 pairs of correct intersecting arcs A1 for correct perpendicular bisector SC If no marks B1 for line within guidelines
4	No because when $n = 6$ $6n - 1$ (= 35) is not prime		2	B2 correctly showing when $n = 6$, 35 is obtained and identified oe or for correctly evaluating $6n - 1$ when n is 0 or negative. (B1 for correctly evaluating $6n - 1$ for at least 3 different whole number values of n or 35 oe with no working)
5	3% = 0.72 1% = 0.24 100% = 24 103% = 24.72	24.72	3	M1 for 3% = 0.72 or $0.03x = 0.72$ M1 for 1% = 0.24 oe or 24 or 0.72×33.3 or $\frac{0.72}{3}\times103$ A1 for 24.72 SC B2 for 24 seen
6 (a)(i)		x^9	1	B1 cao
(ii)		p^5	1	B1 cao
(iii)		$12\,s^6\,t^5$	2	B2 cao (B1 for two of 12, s^6, t^5 in a product)
(iv)		q^{12}	1	B1 cao
(b)		$6g - 3$	1	B1 cao
(c)		$2d^2 + 6d$	2	B2 cao (B1 for $2d^2$ or $6d$)
(d)	$x^2 + 3x + 2x + 6$	$x^2 + 5x + 6$	2	B2 for $x^2 + 5x + 6$ (B1 for 3 out of 4 parts correct in working)

Paper 5525_06					
No		Working	Answer	Mark	Notes
7		$4^2 + 6^2$ $16 + 36 = 52$ $\sqrt{52}$	7.21	3	M1 for $4^2 + 6^2$ or $16 + 36$ or 52 M1 for $\sqrt{16 + 36}$ or $\sqrt{52}$ A1 for 7.21- 7.212
8	(a)		$35 \leq t < 40$	1	B1 for correct interval
	(b)	8 × 22.5 3 × 27.5 7 × 32.5 7 × 37.5 15 × 42.5 1390 ÷ 40	34.75	4	M1 for *fx* consistently within interval including ends (allow 1 error) M1 (dep) consistently using midpoints . M1 (dep on 1st M) for $\sum fx \div \sum f$ A1 for 34.75 or 34.7 or 34.8
9	(a)	$\frac{\sqrt{6.06}}{1.985}$	1.24015	2	B2 for 1.24015 …… (B1 for sight of 2.46(….) or 1.985 or 1.24(….))
	(b)		1.24	1	B1 ft any answer to (a) correctly rounded to 2, 3 or 4 significant figures
10			Rotation 180º centre (0,0)	3	B1 for rotation B1 for 180º or $\frac{1}{2}$ turn B1 for (0,0) Or B2 enlargement SF – 1 B1 centre (0,0) If no marks awarded SC B1 for correct reflections
11			$a = 3$ $b = -2$	3	M1 for a complete method which leads to a single equation in *a* or *b* only (allow 1 error) M1 (dep) substitute found value of *a* or *b* into one equation A1 cao SC B1 for one correct answer only if Ms not awarded, $a = 3$ or $b = -2$

Paper 5525_06				
No	**Working**	**Answer**	**Mark**	**Notes**
12 (a)	$\tan a = \frac{5}{6}$ Angle $a = 39.8^o$	39.8		M1 for $\tan(a =) \frac{5}{6}$ M1 for $a = \tan^{-1}(\frac{5}{6})$ or $\tan^{-1}(0.83)$ to $\tan^{-1}(0.834)$ (Allow $\tan^{-1} 5 \div 6$) A1 for 39.8- 39.81 SC 0.692 – 0.695 or 44.2 – 44.24 seen gets M1M1 A0
(b)	$\sin 40^o = \frac{x}{10}$ $x = 10 \times \sin 40^o$	6.43		M1 for $\sin 40 = \frac{x}{10}$ M1 for $10 \times \sin 40$ A1 for 6.427 – 6.43 (SC 7.45… or 5.87… seen gets M1M1 A0)
13 (a)(i)		**p + q**	2	B1 cao **p + q**
(ii)		**q – p**		B1 **q – p** oe
(b)		$\frac{1}{2}$**(p + q)**	1	B1 $\frac{1}{2}$**(p + q)** oe
14	8×50^2	20 000cm²	2	M1 for 50^2 seen A1 for 20 000cm² or 2 m²
15 (a)		−2, −1, 0, 1, 2	2	B2 for all correct (B1 for –1,0,1 if seen in list , B1 for –2 , –1, 1, 2)
(b)	$4p + p < 8 + 7$ $p < 3$	$p < 3$	2	M1 for $4p + p < 8 + 7$ A1 cao
16		P and C Q and D R and B S and A	2	B2 for all correct (B1 for exactly 2 or exactly 3 correct)

Paper 5525_06				
No	**Working**	**Answer**	**Mark**	**Notes**
17	$m = \frac{-4}{4} = -1$ $c = 3$	$y = -x + 3$	4	M1 for clear attempt to find gradient of AB A1 for $m = -1$ B1 for $c = 3$ in $y = mx + c$ m does not have to be numerical A1 for $y = -x + 3$ oe SC B2 for $y = x + 3$ seen B3 for $-x + 3$ on its own B1 for $x + 3$ on its own
18 (a)		$\frac{1}{4}$ $\frac{2}{3}$ $\frac{1}{3}$ $\frac{2}{3}$	2	B1 for $\frac{1}{4}$ correct on tennis B1 for $\frac{2}{3}$, $\frac{1}{3}$, $\frac{2}{3}$ correct on snooker
(b)	$\frac{3}{4} \times \frac{1}{3}$	$\frac{1}{4}$	2	M1 for $\frac{3}{4} \times \frac{1}{3}$ A1 for $\frac{1}{4}$ oe
(c)	$\frac{3}{4} \times \frac{2}{3} + \frac{1}{4} \times \frac{1}{3}$ $\frac{1}{2} + \frac{1}{12}$	$\frac{7}{12}$	3	M1 for $\frac{3}{4} \times "\left(\frac{2}{3}\right)'"$ **or** $"\left(\frac{1}{4}\right)" \times "\left(\frac{1}{3}\right)"$ M1 $\frac{3}{4} \times "\left(\frac{2}{3}\right)'"$ + $"\left(\frac{1}{4}\right)" \times "\left(\frac{1}{3}\right)"$ A1 for $\frac{7}{12}$ oe (0.58…) Or M2 for $1 - \left(\frac{3}{4} \times \frac{1}{3} + \frac{1}{4} \times \frac{2}{3}\right)$ A1 for $\frac{7}{12}$ oe (0.58…)

Paper 5525_06					
No		Working	Answer	Mark	Notes
19	(a)(i)		6.75	1	B1 cao
	(ii)		6.65	1	B1 cao
	(b)(i)	$26.95 \div 6.65$	4.05263	3	M1 for "26.95" ÷ "6.65" where $26.9 <$ "26.95" ≤ 26.95 and $6.65 \leq$ "6.65" < 6.7 A1 for 4.05263 (….)
	(ii)	$26.85 \div 6.75$	3.97778		If M1 not earned in (i), then M1 for '26.85'÷'6.75' where $26.85 \leq$ '26.85' < 26.9 and $6.7 <$ '6.75' ≤ 6.75 A1 for 3.9777 (…..)
	(c)(i)		4	2	B1 cao
	(ii)		bounds agree to 1sf		B1 for appropriate reason for 4
20	(a)	$27x^6y^{12}$	$27x^6y^{12}$	2	B2 for fully correct B1 for 2 of 27, x^6, y^{12} correct in a 3 term product
	(b)	$6x^2+15x-4x-10$	$6x^2+11x-10$	2	B2 for fully correct (B1 for 3 out of 4 terms correct in working including signs or 4 terms correct, incorrect signs)
	(c)	$\frac{(x+2)(x+3)}{x(x+2)}$	$\frac{x+3}{x}$	2	B2 for $\frac{x+3}{x}$ (B1 for $x(x+2)$ or $(x+2)(x+3)$ seen)
21		$x=\frac{5\pm\sqrt{25-4\times1\times-8}}{2}$ $\frac{5\pm\sqrt{57}}{2}=\frac{5\pm7.54983}{2}$ $x = 6.2749$ or $x = -1.2749$	6.27 or –1.27	3	M1 for correct substitution into formula up to signs on b and c M1 for $\frac{5\pm\sqrt{57}}{2}$ A1 6.27 to 6.275 and –1.27 to –1.275

Paper 5525_06				
No	**Working**	**Answer**	**Mark**	**Notes**
22 (a)	$\frac{120}{360}$ or $\frac{1}{3}$ $\frac{120}{360}\times 2\pi\times 10.4$	21.7 – 21.8	3	B1 for $\frac{120}{360}$ or $\frac{1}{3}$ seen M1 for $\frac{120}{360}\times 2\pi\times 10.4$ A1 for 21.7 - 21.8
(b)	Area Sector $=\pi(10.4)^2\div 3=113.26488$ Area Triangle $=\frac{1}{2}(10.4)(10.4)\sin 120^\circ$ $=46.8346$ Area segment = 66.43 ….	66.4	4	M1 for $\pi\,(10.4)^2\div 3$ or $\pi(10.4)^2\times\frac{120}{360}$ oe M1 for $\frac{1}{2}(10.4)(10.4)\sin 120^\circ$ or any other valid method for area triangle *OAC* M1 (dep on at least 1 of the previous Ms) for area of sector – area of triangle *OAC*, providing the answer is positive. A1 66.35 – 66.5
23	$\frac{\sin ADB}{25}=\frac{\sin 28}{DB}$ $DB=\frac{25\times\sin 28}{\sin 26}$ $DB=26.77$ $DC=26.77\times\sin 54$	21.7	5	M1 for $\frac{\sin"26"}{25}=\frac{\sin 28}{DB}$ M1 for $DB=\frac{25\times\sin 28}{\sin"26"}$ A1 for 26.7 – 26.8 M1 for $DC="26.7"\times\sin 54$ A1 for 21.65 – 21.7 Or M1 for $\frac{\sin"26"}{25}=\frac{\sin"126^\circ"}{AD}$ oe M1 for $AD=\frac{25\times\sin"126^\circ"}{\sin 26^\circ}$ A1 for 46.1 – 46.2 M1 for "46.1" $\times\sin 28^\circ$ A1 for 21.65 – 21.7

Paper 5525_06				
No	**Working**	**Answer**	**Mark**	**Notes**
24	Draw circle centre (0,0) radius 4 Draw a line through (1,2) Show two intersections	Fully correct explanation	3	M1 circle or semi-circle centre (0, 0) drawn or plotted with at least 8 points or stated A1 correct circle drawn or stated A1 straight line drawn through (1, 2) and cutting the (possibly freehand) circle at 2 distinct points or for stating that any straight line through (1,2) will cut the circle in 2 places as (1,2) is inside the circle