OCR
RECOGNISING ACHIEVEMENT

GCSE

Mathematics A

General Certificate of Secondary Education **J512**

Mark Scheme for the Components

January 2009

J512/MS/R/09J

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General Certificate of Secondary Education

Mathematics A (J512)

MARK SCHEMES FOR THE COMPONENTS

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J512/01 Paper 1 (Foundation Tier)

1	**(a)**	Circle	**1**	
	(b)	Rectangle	**1**	
	(c)	Rhombus	**1**	
	(d)	Isosceles (Triangle)	**1**	
	(e)	Trapezium	**1**	
2	**(a)**	(4,1)	**1**	
	(b)	(2,3) and (0,6) plotted	**2**	1 for each **SC1** for both coordinates reversed
	(c)	F is not on EG, midpoint is (2, 3.5), EF $\neq$ FG	**1**	If F or G incorrectly plotted, mark may be awarded if F is between E and G
3		50 3/10 oe 0.25 25 0.09 9/100 oe	**1** **1** **1** **1** **1** **1**	
4	**(a)**	Fifty-fifty	**1**	
	(b)	Likely	**1**	
	(c)	Unlikely	**1**	
	(d)	Certain	**1**	
5	**(a)**	8 cao	**1**	
	(b)	10 or 15 cao	**1**	
	(c)	9 cao	**1**	
	(d)	14 cao	**1**	
	(e)	120 cao	**1**	
6	**(a)**	(i) 25	**1**	
		(ii) + 6 oe	**1**	
	(b)	(i) 48	**1**	
		(ii) $\times$ 2 oe	**1**	

7	**(a)**	(i) 2 – 2.5	**1**	
		(ii) 4 – 5	**1**	
	(b)	(i) 180	**2**	**M1** for 300 ÷ 50 × 30 oe
		(ii) 5	**2**	**M1** for 300 ÷ 60 oe or **SC1** for 3 seen or *their* (b)(i) ÷ 60 oe
8	**(a)**	Large Letter	**1**	
	(b)	Width > 250mm Too wide Bigger than a large letter	**1**	
	(c)	139	**1**	
	(d)	65p	**3**	**B2** for 51 or 127 Or **B1** for ”Large letter“ seen
9	**(a)**	7	**1**	
	(b)	13	**1**	
	(c)	20	**1**	
	(d)	1.5 oe	**2**	**M1** for 21 – 6 or 15
10	**(a)**	Single correct ruled line, any length	**3**	**B2** for 3 points correctly plotted Or **B1** for any 1 point correct
	(b)	92 – 98	**1**	
	(c)	14 – 15.60	**2**	**M1** for any valid visible method e.g. 7.4 × 2 or values from 100 × 2, 140 + 60 etc
11	**(a)**	(i) 40	**2**	**M1** for 8 × 5
		(ii) 26	**1**	Allow **SC1** if (i) & (ii) correct but reversed
	(b)	Any factor pair of 28	**1**	If (a)(i) = 26 ft for L and W where L + W = 14
	(c)	7	**FT2**	ft *their* LW ÷ 4 **M1** for *their* L and W both halved
12	**(a)**	12	**1**	
	(b)	6	**3**	**M1** for attempt at 2 + 7 + 12 +…or 54 seen **and M1dep** for *their* 54 ÷ 9
13	**(a)**	31 – 32.5	**2**	**B1** for 6.2 – 6.5 (cm) seen anywhere
	(b)	(0)64 – 68	**1**	
	(c)	7cm and correct bearing	**2**	1 for each

14	**(a)**	10 000	**1**	
	(b)	5	**1**	
	(c)	100	**2**	**B1** for 64 or 36
	(d)	1/12	**2**	**M1** for 5/60 oe
15	**(a)**	7h 20m	**3**	**B2** for 7h ….m Or **M1** for 220 ÷ 30
	(b)	378	**3**	**M2** for 1.05 × 360 oe Or **M1** for 0.05 × 360 oe Or **M1** accept 10% = 36 and 5% = *their* (36÷2)
	(c)	80 or 80:120	**2**	**M1** for $\frac{2}{5} \times 200$ oe
16	**(a)**	5 points correct	**2**	**B1** for 3 points correct
	(b)	Strong positive	**1** **1**	 Condone + or +ve
	(c)	(i) Single ruled line	**1**	Line between (0,15) and (0,30) and between (6,60) and (7,60)
		(ii) 37 to 48	**1**	
17		8 m^2	**2** **1**	**M1** for 5 × 3 – (2 × 2.5 + 2 × 1) oe Units mark independent
18	**(a)**	3*xy* final answer	**1**	
	(b)	5*a* + 9*b* final answer	**2**	**B1** for 5*a* or 9*b* seen
	(c)	14*x* + 13 final answer	**2**	**M1** for 6*x* + 15 or 8*x* – 2 soi
19		1200 or 1300 or 1320	**2**	**B1** for rounding to any two of 100, 110, 6, 0.5 soi
20	**(a)**	Correct P	**2**	**M1** for one component correct Or for 2 correct coordinates
	(b)	Correct Q	**2**	**M1** for correct size, wrong position Or for 2 correct coordinates

J512/02 Paper 2 (Foundation Tier)

1	**(a)**	Four thousand (and) twenty eight	**1**	Condone poor spelling
	(b)	35 004	**1**	
	(c)	(i) 6810	**1**	
		(ii) 7000	**1**	
	(d)	(i) 40 or forty	**1**	Condone 'tens'
		(ii) 700 or seven hundred	**1**	Condone 'hundreds'
2	**(a)**	25	**1**	
	(b)	1/3	**2**	**B1** for 4/12 or 2/6 or 1/3 seen
	(c)	(0).75	**1**	
3	**(a)**	Centimetres or Millimetres	**1**	Condone cm or mm
	(b)	Grams	**1**	Condone g
	(c)	Millilitres	**1**	Condone ml
	(d)	Kilometres	**1**	Condone km
	(e)	Kilograms	**1**	Condone kg
4	**(a)**	3	**1**	
	(b)	Put numbers in order oe Find middle number oe	**1** **1**	Independent
5	**(a)**	(i) 1.76	**2**	**M1** for 5 – *their* 3.24 soi **Or B1** for £3.24 seen
		(ii) 6	**2**	**B1** for 6.89… or 6.9 or 7 **Or M1** for 10/1.45 oe
	(b)	1.20	**2**	**M1** for 12 × 10/100 oe or 1.2 **Or SC1** for final answer of 10.8(0)
6	**(a)**	7.5 to 7.9	**1**	Allow 75 to 79 if mm stated
	(b)	Circle, radius 3cm ± 2mm X on circumference	**1** **1**	Condone freehand if all within tolerance
	(c)	Angle 36 to 39 and labelled	**2**	**B1** for angle 35 to 40 labelled **Or SC1** for 36 to 39 not labelled
	(d)	Correct horizontal line Correct vertical line	**1** **1**	**-1** for each other incorrect line down to zero

7	**(a)**	(i) 1	**1**	
		(ii) -11	**1**	
		(iii) 4	**2**	**B1** for 8 seen or (*their* 8)/2
	(b)	+ 4 + 2	**1** **1**	
8	**(a)**	(i) 9*y*	**1**	
		(ii) 7*x*	**1**	
	(b)	16	**2**	**M1** for 3 × 2 + 2 × 5 **Or B1** for 6 or 10 seen
	(c)	(i) 40*x*	**1**	
		(ii) *y* + 12	**1**	
9	**(a)**	1.5 or 1½	**1**	
	(b)	(0).17	**1**	
	(c)	87	**2**	**M1** for 145 × 3/5 **Or** for sight of 29 or 435 or 0.6
	(d)	1.26	**3**	**B2** for 1.2615 or 1.262 or 1.26 seen **Or M1** for 0.29 × 4.35 oe
10	**(a)**	$\frac{1}{4}$ oe	**1**	Must be a fraction
	(b)	150	**2**	**M1** for 360 – (90 + 48 + 72) soi
	(c)	(i) 24	**1**	
		(ii) (*their*24)/180 oe isw	**1**	If decimal, correct to at least 2dp
11	**(a)**	50	**1**	
	(b)	Steepest oe	**1**	
	(c)	Slowed down oe	**1**	
	(d)	Back **home** oe	**1**	
	(e)	12	**1**	
12	**(a)**	9 21	**2**	**B1** for one correct in correct place **Or SC1** for correct values in wrong places
	(b)	(i) 71	**1**	
		(ii) 109 or 180 – *(their* 71)	**1**	
		(iii) 37 + 72 = 109 Correct statement from *their* b(ii)	**2**	**M1** for 37 + 72 = 109

13	**(a)**	5	**3**	**B2** for 4 **Or M2** for (285.50 – 75.50 – 52.5*n*) ÷ 52.50 oe **Or M1** for 285.50 – 75.50 – 52.5*n* soi (where *n* = 0, 1, 2, 3 or 4)
	(b)	11/20 or equiv **fraction** isw	**4**	Method 1 **B3** for 440 seen www **Or M2** for *their* (800 ÷ 4) + *their* (800 ÷ 5) **Or M1** for 800 ÷ 4 or 800 ÷ 5 soi Method 2 **M3** for 1 – (1/5 +1/4) oe **Or B2** for 9/20 oe **Or M1** for 1/5 + 1/4 oe
14		53.97; 2; 23.98 in the correct place	**4**	**B3** for 53.97 and 23.98 in the correct place **M2** for 77.95 – (3 x 17.99) or 53.97 and 23.98 seen **M1** for 3 x 17.99
15	**(a)**	3 | 3 2 | 1 2 2 2 1 | 0 2 3 5 6 7 8 0 | 7 8 9 Key 2 |1 means 21 (minutes) oe	**2** **1**	**M1** for unordered stem & leaf **or** ordered stem & leaf with 1 or 2 errors/omissions **Or SC1** for stem with 0, 10, 20 and 30 and all leaves correct Dep on attempt at stem & leaf
	(b)	16 and 26	**2**	**B1** for median 16 or range 26
	(c)	Same median or average or Men's range greater oe	**1**	NOT mode or mean Correct or ft *their* part (b)
16	**(a)**	3 6 11	**2**	**B1** for two terms correct, in correct place If **B0** then **SC1** for 2 3 6 in that order
	(b)	4*n* + 3 oe	**2**	**B1** for 4*n* seen

17	**(a)**	142; vertically opposite 67; alternate angles	**4**	**B3** for any three of angles or reasons **B2** for any two angles or reasons **B1** for any one angle or reason
	(b)	(i) 5 x (180 – 360 ÷ 5) = 540 or 3 x 180 = 540 or 5 x 180 – 360 = 540 or (5 x 2 – 4) x 90 = 540 or (5 x 2 – 4) right angles = 540 or 180 – (540 ÷ 5) = 72 and 5 x 72 = 360 and 360 = sum exterior angles	**3**	**M2** for 5 x (180 – 360 ÷ 5) or 3 x 180 or 5 x 180 – 360 or (5 x 2 – 4) x 90 or 180 – (540 ÷ 5) = 72 and 5 x 72 = 360 **Or M1** for 360 ÷ 5 or 180 – (540 ÷ 5) or 108 x 5 = 540 or 540 ÷ 5 = 108 or split into triangles from centre or vertex soi
		(ii) 157	**2**	**M1** for 540 – (138 + 40 + 115 + 90)
		(iii) 450 or 4.5×10^2	**2**	**M1** for use of SF 100
18	**(a)**	t^9	**1**	
	(b)	p^4	**1**	

J512/03 Paper 3 (Higher Tier)

1	**(a)**	7h 20m	**3**	**B2** for answer of 7h ….m or 440 (mins) seen or **M1** for 220 ÷ 30
	(b)	378	**3**	**M2** for 1.05 × 360 oe or **M1** for 0.05 × 360 oe or **M1** accept 10% = 36 and 5% = *their*(36÷2)
	(c)	80 or 80:120	**2**	**M1** for $\frac{2}{5}$ × 200 oe
2	**(a)**	5 points correct	**2**	**B1** for 3 points correct
	(b)	Strong positive	**1** **1**	 Condone + or +ve
	(c)	(i) single ruled line	**1**	Line between (0,15) and (0,30) and between (6,60) and (7,60)
		(ii) 37 to 48	**1**	
3	**(a)**	23	**2**	**B1** for + 8 seen or **SC1** for answer of 7
	(b)	4	**2**	Allow embedded answer for 2 marks **M1** for 2*x* = 13 – 5 oe or better
4	**(a)**	48	**2**	**M1** for 24 × 2
	(b)	4	**2**	**M1** for 8 ÷ 2
5	**(a)**	8 m²	**2** **1**	**M1** for 5 × 3 – (2 × 2.5 + 2 × 1) oe Units mark independent
	(b)	All correct including orientation	**2**	**M1** for 6cm horiz and either 6cm or 10cm vert Ruled lines
	(c)	3.3 to 3.7 or √13	**1**	
6	**(a)**	3*xy* final answer	**1**	
	(b)	5*a* + 9*b* final answer	**2**	**B1** for 5*a* or 9*b* seen
	(c)	14*x* + 13 final answer	**2**	**M1** for 6*x* + 15 or 8*x* – 2 soi
7		1200 or 1300 or 1320	**2**	**B1** for rounding to any two of 100, 110, 6, 0.5 soi

8	**(a)**	Correct P	**2**	**M1** for one component correct or for 2 correct coordinates
	(b)	Correct Q	**2**	**M1** for correct size, wrong position or for 2 correct coordinates
9	**(a)**	Sub $x = 2$ and $x = 3$ -5 and 4 'One above 0, one below 0' oe	**M1** **A1** **1**	 Dep. Allow 'change of sign' or 'one too big, one too small'
	(b)	$x > 2½$ oe	**3**	**B2** for $6x > 12 + 3$ or $2x > 4 + 1$ or **B1** for $6x - 3 > 12$ or $2x - 1 > 4$ or **SC2** for answer of $x = 2½$ or **SC1** for $6x > 12 + 1$
10	**(a)**	(i) 4.55×10^5	**1**	
		(ii) 3.8×10^{-5}	**1**	
		(iii) 2.9×10^9	**1**	
	(b)	4×10^9	**2**	**B1** for 4×10^n or $n \times 10^9$
11		Constructed bisector of B Arc 3.5cm, centre A 2 points indicated	**2** **1** **2**	**B1** for correct bisector, no arcs Dependent on both loci **B1** for one point
12	**(a)**	$x = 3$, $y = 2$	**1**	
	(b)	Correct line drawn Intersection of *their* line with $Y = x - 1$	**2** **FT1**	**M1** for two correct points plotted Each value ± 0.2 After 0 scored, **SC1** for $x = 4$, $y = 3$
13	**(a)**	B should be 90°	**1**	Allow reference to angle in a semi-circle
	(b)	$x = 85$ (angle in) same segment	**1** **1**	 Allow same chord
	(c)	$y = 95$ or $180 - x$ Cyclic quadrilateral	**FT1** **1**	$x \neq 90$ Allow quadrilateral in circle
14	**(a)**	(34), 59, 69, 88, (100)	**1**	
	(b)	*Must be increasing graph to score in (b)* *Their* 5 points plotted *Their* 5 points joined	 **2** **1**	 **B1** for 3 correct points or 5 correct heights Lines or curve
	(c)	28 to 34 cao	**1**	

15	**(a)**	(i) $(x + 3)(x + 4)$ isw	**2**	**M1** for $(x + a)(x + b)$ where $ab = 12$ or $a + b = 7$
		(ii) -3, -4 or ft from *their* brackets	**FT1**	
	(b)	$(x + 2y)(x – 2y)$	**2**	**M1** for $(x \pm 2y)(x \pm 2y)$
	(c)	$6x^2 – 11x – 10$ final answer	**3**	**B1** for each correct term in *their* final answer
16	**(a)**	10	**2**	**B1** for $\sqrt{(2\times50)}$ or $5\sqrt{2}\sqrt{2}$ or better
	(b)	$6\sqrt{2}$	**2**	**B1** for $\sqrt{25}\sqrt{2}$ or better
17		$\frac{3}{8}$ oe	**3**	**M2** for $\frac{2}{8}\times\frac{6}{8}\times2$ oe **M1** for $\frac{2}{8}\times\frac{6}{8}$ oe
18		$\frac{2}{3}\times\pi\times3^3$ oe soi $\pi\times4^2\times15$ oe soi <u>*Their* liquid volume</u> soi *Their* glass volume 13	**1** **1** **1** **B2**	soi by 18π soi by 240π **B1** for 13⅓ oe
19	**(a)**	85	**2**	**B1** for $2^0 = 1$ soi
	(b)	40	**2**	**B1** for $2^{-2} = ¼$ soi
20		$3x + 2(x^2 - 2x + 3) = 7$ $2x^2 – x – 1 = 0$ $(2x + 1)(x – 1)$ $x = 1$ <u>and</u> $y = 2$ $x = -½$ oe $y = 4¼$ oe	**M1** **A1** **FTM2** **B1** **B1** **B1**	oe method to eliminate one variable or $4y^2 – 25y + 34 = 0$ oe of these terms or $(4y – 17)(y – 2)$ or factorisation for their trinomial **or M1** for $(2x \pm 1)(x \pm 1)$ or for $(4y \pm 17)(y \pm 2)$ or ft "correct" wrong signs Last three marks are independent of any previous method

J512/04 Paper 4 (Higher Tier)

1	**(a)**	1.2	**2**	**M1** for 16.5 ÷ 13.4 or 1.2(3...) If **M0**, **SC1** for 7.2 or *their* answer rounded to 1dp
	(b)	500	**2**	**B1** for 45 ÷ 0.09
2		53.97; 2; 23.98 in the correct place	**4**	**B3** for 53.97 and 23.98 in the correct place **M2** for 77.95 – (3 x 17.99) or 53.97 and 23.98 seen **M1** for 3 x 17.99
3	**(a)**	(i) $2(3x+8)$	**1**	
		(ii) $x(x+6)$	**1**	
	(b)	(i) 72	**1**	
		(ii) 5	**3**	**M2** for $6x - 4x = 11 - 1$ **M1** for $2x+1=11$ or $6x = 10 + 4x$ If **M1** or **M0** then **SC1** for $x = \frac{a}{b}$ after $bx = a$
		(iii) 42	**2**	**M1** for $\frac{x}{6} = 9 - 2$ or $x + (6 \times 2) = 6 \times 9$ If **M0** then **SC1** for correct embedded answer or for answer of 66 or 52
	(c)	$x = \frac{y+7}{6}$ or $x = \frac{y}{6} + \frac{7}{6}$	**2**	**M1** for $y + 7 = 6x$ or $\frac{y}{6} = x - \frac{7}{6}$
4	**(a)**	3 | 3 2 | 1 2 2 2 1 | 0 2 3 5 6 7 8 0 | 7 8 9 Key 2 |1 means 21 (minutes) oe	**2** **1**	**M1** for unordered stem & leaf **or** ordered stem & leaf with 1 or 2 errors/omissions **Or SC1** for stem with 0, 10, 20 and 30 and all leaves correct Dep on attempt at stem & leaf
	(b)	16 and 26	**2**	**B1** for median 16 or range 26
	(c)	Same median or average or Men's range greater oe	**1**	NOT mode or mean Correct or ft *their* part (b)
5	**(a)**	3 6 11	**2**	**B1** for two terms correct, in correct place If **B0** then **SC1** for 2 3 6 in that order
	(b)	$4n + 3$ oe	**2**	**B1** for $4n$ seen

6	**(a)**	142; vertically opposite 67; alternate angles	**4**	**B3** for any three of angles or reasons **B2** for any two angles or reasons **B1** for any one angle or reason
	(b)	(i) 5 x (180 – 360 ÷ 5) = 540 or 3 x 180 = 540 or 5 x 180 – 360 = 540 or (5 x 2 – 4) x 90 = 540 or (5 x 2 – 4) right angles =540 or 180 – (540 ÷ 5) = 72 and 5 x 72 = 360 and 360 = sum exterior angles	**3**	**M2** for 5 x (180 – 360 ÷ 5) or 3 x 180 or 5 x 180 – 360 or (5 x 2 – 4) x 90 or 180 – (540 ÷ 5) = 72 and 5 x 72 = 360 **Or M1** for 360 ÷ 5 or 180 – (540 ÷ 5) or 108 x 5 = 540 or 540 ÷ 5 = 108 or split into triangles from centre or vertex soi
		(ii) 157	**2**	**M1** for 540 – (138 + 40 + 115 + 90)
		(iii) 450 or 4.5 x 10^2	**2**	**M1** for use of SF 100
	(c)	$2f(g + h)$	**1**	
7	**(a)**	2	**2**	**B1** for $x^3 = 40/5$
	(b)	2 x 2 x 13 or 2^2 x 13	**2**	**M1** for evidence of finding at least one prime factor
	(c)	297	**2**	**M1** for finding multiples or prime factors of both
	(d)	48	**2**	**M1** for factors of both
8	**(a)**	-2 -2	**2**	**B1** for either correct
	(b)	both points plotted and reasonably smooth curve ± ½ small square of all 9 points	**2**	**B1** for both points plotted & poor/no curve/straight lines or at least one point plotted & curve through 8 points
	(c)	-1.9 0.4 1.5	**2**	ft *their* curve ± ½ small sq within range -2 to 2 **B1** for one correct
	(d)	$y = x$	**2**	**M1** for attempt to compare equations If **M0** then **SC1** for $y = -x$

9	**(a)**	2 (office) parties in one year	**1**	
	(b)	(500 + 1300) ÷ 2 = 900 ½ (1300 – 500) + 500 = 900	**2**	**M1** for (500 + 1300) ÷ 2 or ½ (1300 – 500) + 500
	(c)	940	**2**	**M1** for (1900 + *x*) ÷ 2 = 1420 or 1420 – (1900 – 1420)
	(d)	15	**2**	**M1** for (89 ÷ (31 + 89)) x 20 or (31 + 89)/20 and 89/*their* 6 If **M0** then **SC1** for both 15 and 5 not identified or 5 men
10		$c = 1.06$ $d = 4$	**3**	**B2** for $c = 1.06$ **B1** for (100 + 6) ÷ 100 or 1.06 seen **and B1** for $d = 4$
11	**(a)**	(i) 8.5 www	**3**	**M2** for $\sqrt{9.1^2 - 3.2^2}$ or $\sqrt{72.57}$ **M1** for $9.1^2 - 3.2^2$ or 72.57
		(ii) 78.4	**3**	**M2** for ½ (6 + (3.2 + 6 + 3.2)) x *their* 8.5 oe **M1** for 6 x *their* 8.5 + ½ x 3.2 x *their* 8.5
	(b)	2.9 – 2.91 www	**3**	**M2** for 5.2 x sin 34 **M1** for sin 34 = *h* / 5.2
	(c)	10.6(...)	**3**	**M2** for $\sqrt{112.6(3....)}$ **M1** for $7.8^2 + 4^2 - 2 \times 7.8 \times 4 \cos 125$
12	**(a)**	t^9	**1**	
	(b)	s^{-3} or $1/s^3$	**1**	
	(c)	s^7t^5	**2**	**M1** for s^{3+4} t^{3+2} or product with one part correct
	(d)	$s^{12}t^4$	**2**	**M1** for s^{3x4} t^4 or product with one part correct
13	**(a)**	$y = ½ x^2$ oe	**3**	**B2** for $k = ½$ oe **M1** for $y = kx^2$ or $y \propto x^2$
	(b)	$\pm\sqrt{10}$ or ±3.1 – 3.2	**2**	**B1** for $\sqrt{10}$ or 3.1 – 3.2 **SC1** for $\pm\sqrt{(5/\textit{their } k)}$
14		28.46(…) www	**4**	**B3** for 185 ÷ 6.5 **B2** for 185 and 6.5 selected **B1** for 185 or 6.5 selected **If B1 or B0, allow also SC1** for 175-185/6.5-7.5
15	**(a)**	(0, -1)	**1**	
	(b)	(3, 2)	**1**	

16	**(a)**	(i) ¼ ***c***	**1**	
		(ii) ***a*** + ¼ ***c***	**1**	**SC1** ft ***a*** + *their* (a)(i) provided (a)(i) *k**c***
		(iii) 3***a***	**1**	
		(iv) 4***a*** + ***c***	**1**	**SC1** ft ***c*** + ***a*** + *their* (a)(iii) provided (a)(iii) *k**a***
	(b)	$4\overrightarrow{OP} = \overrightarrow{OQ}$ or $3\overrightarrow{OP} = \overrightarrow{PQ}$ or $\overrightarrow{PQ} = ¾\ \overrightarrow{OQ}$ or $4\overrightarrow{PQ} = 3\ \overrightarrow{OQ}$	**1**	

Grade Thresholds

General Certificate of Secondary Education
Mathematics (Specification Code J512)
January 2009 Examination Series

Component Threshold Marks

Component	Max Mark	A*	A	B	C	D	E	F	G
1	100				72	60	48	37	26
2	100				72	58	45	32	19
3	100	79	63	47	32	21	15		
4	100	87	69	51	33	20	13		
5	48	43	37	31	26	22	18	14	10

Specification Options

Foundation Tier

FA

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	378				300	250	200	150	100
Percentage in Grade					39.5	26.5	13.3	8.9	6.5
Cumulative Percentage in Grade					39.5	66.0	79.2	88.1	94.6

The total entry for the option was 2122.

FC

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	378				300	250	200	150	100
Percentage in Grade					38.0	39.2	9.1	5.9	1.6
Cumulative Percentage in Grade					38.0	77.1	86.2	92.1	93.7

The total entry for the option was 923.

Higher Tier

HA

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	500	450	400	350	300	250	200		
Percentage in Grade		8.9	11.9	29.4	26.2	16.0	3.3		
Cumulative Percentage in Grade		8.9	20.8	50.2	76.4	92.4	95.7		

The total entry for the option was 466.

HC

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	500	450	400	350	300	250	200		
Percentage in Grade		1.4	13.7	26.7	30.8	18.2	3.8		
Cumulative Percentage in Grade		1.4	15.1	41.8	72.6	90.8	94.5		

The total entry for the option was 292.

Overall

	A*	A	B	C	D	E	F	G
Percentage in Grade	1.2	2.6	5.7	36.8	27.7	10.3	6.3	4.0
Cumulative Percentage in Grade	1.2	3.8	9.5	46.3	73.9	84.2	90.5	94.5

The total entry for the examination was 3803.

Statistics are correct at the time of publication.

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