

# Silver Level

## Mark Scheme 1

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Silver
Booklet	Mark Scheme 1

**Time Allowed:** 59 minutes

**Score:** /49

**Percentage:** /100

**Grade Boundaries:**

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	<20%

Question Number	Working		Answer	Mark	Notes	
1.	eg $\frac{5}{100} \times 8000 = 400$	OR $8000 \times 1.05^3$		3	M1 for eg $\frac{5}{100} \times 8000$ or 400	OR M2 for $8000 \times 1.05^3$ (M1 for $8000 \times 1.05$ or 8400 or $8000 \times 1.05^2$ or $8000 \times 1.05^4$ )
	$\frac{5}{100} \times (8000 + "400")$ = 420 $\frac{5}{100} \times (8000 + "400" + "420")$ = 441 8000 + "400" + "420" + "441"				Accept (1 + 0.05) as equivalent to 1.05 throughout.	
					SC If no other marks gained, award M1 for $8000 \times 1.15$ oe or 9200	
			9261		A1	Cao
					<b>Total 3 marks</b>	

Question Number	Working	Answer	Mark	Notes
2. (a)	$1 \times 8 + 3 \times 14 + 5 \times 26 + 7 \times 17 + 9 \times 10 + 11 \times 5$ or $8 + 42 + 130 + 119 + 90 + 55$	444	3	M1 for finding at least four products $f \times x$ consistently within intervals (inc end points) and summing them
				M1 (dep) for use of halfway values
				A1 Cao
(b)		8 22 48 65 75 80	1	B1 Cao
(c)		Points correct	2	B1 $\pm \frac{1}{2}$ sq ft from sensible table
		Curve or line segments		B1 ft from points if 4 or 5 correct or if points are plotted consistently within each interval at the correct heights Accept curve which is not joined to the origin
(d)	5.2 indicated on cf graph		2	M1 for 5.2 indicated on cf graph
		approx 36-40 from correct graph		A1 If M1 scored, ft from cf graph If M1 not scored, ft only from correct curve & if answer is correct ( $\pm \frac{1}{2}$ sq tolerance), award M1 A1
				<b>Total 8 marks</b>

Question Number	Working	Answer	Mark	Notes
3.	$\frac{20(2x-1)}{4} + \frac{20(x-1)}{5} = 2 \times 20$ or $5(2x-1) + 4(x-1) = 40$ or $\frac{5(2x-1) + 4(x-1)}{20} = 2$ or $\frac{5(2x-1)}{20} + \frac{4(x-1)}{20} = 2$		4	M1 for clear intention to multiply both sides by 20 or a multiple of 20 or to express LHS as a single fraction with a denominator of 20 or a multiple of 20 or to express LHS as the sum of two fractions with denominators of 20 or a multiple of 20 May be implied by first B1
	$10x - 5 + 4x - 4 = 40$ or $\frac{10x - 5 + 4x - 4}{20} = 2$ or $\frac{10x - 5}{20} + \frac{4x - 4}{20} = 2$			B1 expanding brackets (dep on M1)
	$14x = 49$ or $14x - 9 = 40$ or $10x + 4x - 9 = 40$ or $14x - 49 = 0$			B1 dep on both preceding marks ie for a correct rearrangement of a correct equation
			3.5	A1 dep on all preceding marks
				<b>Total 4 marks</b>

Question Number	Working	Answer	Mark	Notes
4. (a)	Splits shape into rectangle & semicircle		4	M1 May be implied by working
	$\frac{\pi \times 2.7^2}{2}$ or value rounding to 11.4 or 11.5			M1 $\pi \rightarrow 11.451105...$ 3.14 $\rightarrow$ 11.4453 3.142 $\rightarrow$ 11.45259 Also award for equivalent multiple of $\pi$ eg $3.645\pi$ , $\frac{729\pi}{200}$
	$2 \times 2.7 \times 7.1$ or 38.34			M1 Also accept 38.3
		49.8		A1 for 49.8 or for answer rounding to 49.78 or 49.79
(b)	$P - 2L = \pi r + 2r$ oe		3	M1 for rearranging with both r terms on one side
	$P - 2L = (\pi + 2)r$ oe			M1 for factorising a correct expression (does not depend on a correct rearrangement)
		$\frac{P - 2L}{\pi + 2}$ oe		A1
				<b>Total 7 marks</b>

Question Number	Working	Answer	Mark	Notes
5. (i)	$\frac{1}{7} \times \frac{2}{6}$ and no other terms		2	M1
		$\frac{2}{42}$ or $\frac{1}{21}$ oe		A1 Also accept 0.05, 0.04, 0.047, 0.048 etc Sample space method - award 2 marks for a correct answer; otherwise no marks
(ii)	$\frac{1}{7} \times \frac{1}{6}$ or $\frac{2}{7} \times \frac{3}{6}$		3	M1
	$\frac{1}{7} \times \frac{1}{6} + \frac{2}{7} \times \frac{3}{6}$			M1
		$\frac{7}{42}$ or $\frac{1}{6}$ oe		A1 Also accept 0.16 <sup>&amp;</sup> , 0.16, 0.17, 0.166, 0.167 etc but not 0.2 Sample space method - award 3 marks for a correct answer; otherwise no marks
				<b>Total 5 marks</b>

Question Number	Working	Answer	Mark	Notes
6.	$(BC =) 47 \sin 32^\circ$		5	M1 or for $(CD =) \frac{47 \sin 32^\circ}{\sin 129^\circ}$
	24.906... at least 3 sf (may be implied by correct $BD$ )			A1 or for $CD = 32.048...$ at least 2 sf (may be implied by correct $BD$ )
	$\tan 51^\circ = \frac{"24.906..."}{BD}$ or $\tan 39^\circ = \frac{BD}{"24.906..."}$			M1 or for $\cos 51^\circ = \frac{BD}{"32.048..."}$
	$(BD =) \frac{"24.906..."}{\tan 51^\circ}$ or $"24.906..." \tan 39^\circ$			M1 or for $(BD =) "32.048..." \cos 51^\circ$
		20.2		A1 for answer rounding to 20.2 (20.1686...)
				<b>Total 5 marks</b>

7. (a)	$\frac{1}{2} (6+8) \times 5$ or $\frac{1}{2} \times 2 \times 5 + 6 \times 5$	35	2	M1 A1
(b)	$8 - 6 (=2)$ and 5 seen $(PQ^2 =) ("8 - 6")^2 + 5^2 (=29)$ $(PQ =) \sqrt{"29"}$	5.39	4	B1 could be seen on diagram M1 (dep) $(\theta =) \tan^{-1} (5/"8 - 6") (=68.2 \text{ or better})$ M1 (dep) $(PQ =) "8 - 6" / \cos "68.2" \text{ or } 5 / \sin "68.2"$ A1 5.38516..... awrt 5.39
				<b>Total 6 marks</b>

8.	$6 \times 5 (= 30)$ or $3+2+7+6+2 (=20)$ or $(3+2+7+6+2 + "x") / 6 = 5$ "30" - "20"	10	3	M1 M1 dep A1
				<b>Total 3 marks</b>

9. (i)	$2x \geq 6 - 13$ oe			M1 A1	Condone $2x > 6 - 13$ oe mark response on answer line (do not isw) correct answer with no working = M1A1
		$x \geq -3.5$ oe	2		
(ii)		$-3, -2, -1$	2	B2 any order	B1 for $-3, -2, -1, 0$
					<b>Total 4 marks</b>

10. (a)		Earth	1	B1	or $1.28 \times 10^7$
(b)		6790000	1	B1	
(c)	$1.21 \times 10^7 - 4.88 \times 10^6$ oe			M1 A1	or sight of digits 722
		$7.22 \times 10^6$	2		
					<b>Total 4 marks</b>