

Silver Level

Mark Scheme 8

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Silver
Booklet	Mark Scheme 8

Time Allowed: 60 minutes

Score: /50

Percentage: /100

Grade Boundaries:

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

1	(a)		67	1	B1	cao
	(b)(i)		113	2	B1	cao
	(ii)	eg sum of opposite angles of a cyclic quadrilateral = 180°			B1	Accept reasons which include 'opposite' and 'cyclic', '180° (or supplementary)' and nothing incorrect
						Total 3 marks

2		$6.7^2 + 5.2^2 - 2 \times 6.7 \times 5.2 \cos 117^\circ$ or 44.89 + 27.04 - (-31.63...)		3	M1	
		103.56...			A1	for awrt 104
			10.2		A1	for awrt 10.2 (10.1766...)
						Total 3 marks

3			3	M2	for complete, correct Venn Diagram (outline, labels and numbers) (accept blank instead of 0)	
			22	A1	cao	
						Total 3 marks

Question	Working	Answer	Mark	Notes
4	sin 43 used		3	M1
	7.8 sin 43°			M1 or M1 for 7.8 cos 43° (5.704...) and 7.8 ² - "5.704" ² (28.298) M1 for $\sqrt{"28.298"}$
		5.32		A1 for ans rounding to 5.32 (5.319587...)
				Total 3 marks

Question	Working	Answer	Mark	Notes
5 (a)		2 ⁷	1	B1 cao
(b)	$\frac{280}{35}$ or $\frac{280}{5 \times 7}$ or 8 or 280 = 8 × 5 × 7 or 2 ³ or fully correct factor tree or repeated division or 2, 2, 2, 5, 7 or 2 × 2 × 2 × 5 × 7		2	M1
		3		A1 cao
				Total 3 marks

Question	Working	Answer	Mark	Notes
6	$\angle POT = 58^\circ$		3	M1 May be stated or marked on diagram
	$\angle OTP = 90^\circ$			M1 May be stated or marked on diagram
		32		A1 cao
				Total 3 marks

Question	Working	Answer	Mark	Notes
7	Eg. $\frac{4(6x-1)}{4} - \frac{4(5-2x)}{2} = 1 \times 4$ or $6x-1-2(5-2x) = 4$ or $\frac{6x-1-2(5-2x)}{4} (=1)$ or $\frac{6x-1}{4} - \frac{2(5-2x)}{4} (=1)$ or $1.5x - 0.25 - (2.5 - x) = 1$		4	M1 for clear intention to multiply all terms by 4 or a multiple of 4 or to express LHS as a single fraction with a denominator of 4 or a multiple of 4 or to express LHS as the sum of two fractions with denominators of 4 or a multiple of 4 May be implied by first B1
	Eg. $6x-1-10+4x (=4)$ or $\frac{6x-1-10+4x}{4} (=1)$ or $1.5x - 0.25 - 2.5 + x (=1)$			B1 Expanding brackets
	Eg. $10x=15$ or $10x-11=4$ or $10x-1-10=4$ or $6x+4x-11=4$ or $10x-15=0$			B1 for correct rearrangement of a correct equation with terms in x isolated
		1½ oe		A1 Award full marks for a correct answer if at least M1 scored.
				Total 4 marks

Question	Working	Answer	Mark	Notes
8	$\sqrt{9.5^2 - 7.6^2}$ or $\sqrt{90.25 - 57.76}$ or $\sqrt{32.49}$ or $\sqrt{32.5}$		5	M1
	(BC =) 5.7			A1
	$\frac{1}{2} \times 7.6 \times 5.7$ or 21.6(6) or 21.7			M1 dep on first M1 or eg. $ACB = \sin^{-1}\left(\frac{7.6}{9.5}\right)$ (= 53.1...) and $\frac{1}{2} \times 9.5 \times 5.7 \times \sin 53.1$
	$\frac{1}{2} \times \pi \times \left(\frac{5.7}{2}\right)^2$ or 12.7(587...) or 12.8			M1 dep on first M1
		34.4		A1 for answer rounding to 34.4 ($\pi \rightarrow 34.4187... \quad 3.14 \rightarrow 34.4123...$)
				Total 5 marks

Question	Working	Answer	Mark	Notes
9	$\frac{1}{2} \times 8.9 \times 6.7 \times \sin 74^\circ$ or 28.6(600...)	$h = 6.7 \sin 74^\circ$ or 6.44(0...)	3	M1 or a complete correct method to find the perpendicular height
	$\times 2$	$8.9 \times 6.44(0...)$		M1 (dep) for a complete method to find area of parallelogram
		57.3		A1 for answer rounding to 57.3 (57.320...)
				Total 3 marks

Question	Working	Answer	Mark	Notes
10		$8(4x - y)(4x + y)$	2	<p>B2 B2 for $8(4x - y)(4x + y)$ oe</p> <p>B1 for correct, incomplete factorisation eg $(16x - 4y)(8x + 2y)$ or eg $8(16x^2 - y^2)$</p> <p>or correct use of difference of two squares eg. $(12x - y - (4x - 3y))(12x - y + 4x - 3y)$</p>
				Total 2 marks

Question	Working	Answer	Mark	Notes		
11 (a)	$\frac{12}{100} \times 675$ oe or 81		3	M1	M2 for 675×1.12 oe	
	675 + "81"			M1 (dep)		
		756		A1	cao	
(b)	23% of amount = 2162 or $(1\% =) \frac{2162}{23}$ or 94 seen		3	M1	M2 for $\frac{2162}{23} \times 100$ oe	
	"94" $\times 100$ or 9400 or "94" $\times 77$			M1		
		7238		A1	cao	
(c)	$\frac{40}{100} \times 1500$ oe or 600	OR 1500×0.6^3	3	M1	for eg $\frac{40}{100} \times 1500$ or 600	OR M2 for 1500×0.6^3 (M1 for 1500×0.6 or 900 or 1500×0.6^2 or 540 or 1500×0.6^4)
	$\frac{40}{100} \times (1500 - "600")$ = 360 $\frac{40}{100} \times (1500 - "600" - "360") =$ 216 1500 - "600" - "360" - "216"			M1	for completing method	
		324		A1	cao	
				Total 9 marks		

Question	Working	Answer	Mark	Notes
12 (a)	$\frac{4}{10} + \frac{2}{10}$ or $4 + 2$ or 6		2	M1
		$\frac{6}{10}$ or $\frac{3}{5}$		A1
(b)	eg $\frac{4}{10} \times 200$		2	M1
		80		A1 cao
(c)(i)	$\frac{3}{10} \times \frac{2}{9}$		5	M1
		$\frac{6}{90}$ oe		A1 $\frac{6}{90}$ oe inc $\frac{1}{15}$ SC M1 for $\frac{3}{10} \times \frac{3}{10}$
(ii)	$\frac{3}{10} \times \frac{2}{9} + \frac{4}{10} \times \frac{3}{9} + \frac{2}{10} \times \frac{3}{9}$			M1 for one correct product M1 for sum of all 3 correct products
		$\frac{24}{90}$ oe		A1 for $\frac{24}{90}$ oe inc $\frac{4}{15}$
				SC: M1 for $\frac{3}{10} \times \frac{2}{10}$ or $\frac{4}{10} \times \frac{4}{10}$ or $\frac{2}{10} \times \frac{3}{10}$ M1 for $\frac{3}{10} \times \frac{2}{10} + \frac{4}{10} \times \frac{4}{10} + \frac{2}{10} \times \frac{3}{10}$
				Total 9 marks