

Silver Level

Mark Scheme 6

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Silver
Booklet	Mark Scheme 6

Time Allowed: 56 minutes

Score: /46

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1 (a)	$\frac{6}{32} \times 100$	18.75	2	M1 Allow "32" from evidence of adding frequencies A1 Accept 19 if the correct method or 18.75 seen
(b)	$(7 \times 10) + (16 \times 30) + (3 \times 50) + (6 \times 70)$ $= 70 + 480 + 150 + 420$	1120	3	M1 $f \times x$ for 3 products with x used consistently within interval (incl. end points) & intention to add M1(dep) use of correct half way values $(\frac{1120}{32}$ implies M2) A1 cao
				Total 5 marks

2 (a)	$3 \times (-2)^2 - (5 \times -2)$ or $3(-2)^2 - 5(-2)$ or $3 \times (-2)^2 - 5 \times -2$ or $3 \times 4 - 5 \times -2$	22	2	M1 or $12 - - 10$ or $12 + 10$ or 12 and -10 A1 cao
(b)	$12 = 3 \times 4^2 - 4n$ $4n = 48 - 12$ oe	9	3	M1 or M2 for $48 - 12$ or 36 M1 A1 cao
				Total 5 marks

3 (a) (i)		6^8	1	B1
(ii)		9^{14}	1	B1 (oe e.g. 3^{28} ; 81^7)
(b)	$5^n \times 5^3 = 5^{10}$ or $\frac{5^n}{5^6} = 5$ or $\frac{5^n}{5^3} = 5^4$ or $5^{n+3} = 5^{4+6}$	7	2	M1 or a correct equation in n eg. $n + 3 = 10$ or $n + 3 - 6 = 4$ A1 SC B1 for an answer of 5^7
				Total 4 marks

4	$5 \times 2 \times 36.6 (=6222)$ "4208.35.." + "6222" (=10430.35..)	10400	4	M1 or $\times 36.6^2 \div 2 (=2104.17..)$ M1 M1 dep on both previous method marks A1 awrt 10400 (accept correct answers given in an alternative form eg. 1.04×10^4 ; 104×10^2) SC : B2 for an awrt 7320
				Total 4 marks

5	identify sin 52 or cos 38 $\sin 52 = \frac{6.8}{x}$ or $(x =) \frac{6.8}{\sin 52}$ or $\frac{x}{\sin 90} = \frac{6.8}{\sin 52}$	8.63	3	M1 for use of sin 52 or use of cos 38 M1 or cos 38 = $\frac{6.8}{x}$ or $(x =) \frac{6.8}{\cos 38}$ A1 (8.62932..) awrt 8.63	Total 3 marks

6 (a) (i)		4200000	1	B1	Total 4 marks
(a) (ii)		(0).000382	1	B1	
(b)		8.6×10^{-9} 5.64×10^{-8} 5.6×10^{-7}	2	B2 B1 for smallest or largest in correct position	
Total 4 marks					

7 (a)	Correct v ÷ h eg $2 \div 8$ or $\frac{5-3}{8-0}$ oe	0.25 oe	2	M1 or $y = mx + 3$ with any (x, y) on L substituted eg. $5 = 8m + 3$ A1	Total 5 marks
(b)		$y = "0.25" x + 3$ oe	1	B1 ft Accept equivalents (e.g. $4y = x + 12$)	
(c)		$y = "0.25" x - 1$ oe e.g. $4y = x - 4$	2	M1ft for $y = "0.25" x + c$ ($c \neq -1$) or $c = -1$ as a statement or $"0.25" x - 1$ or $L = "0.25" x - 1$ or $-2 = "0.25" \times 4 + c$ A1ft from "0.25" with $c = -1$ or c evaluated	
Total 5 marks					

8 (a)		(4.5 , 3)	2	B1 B1
(b)	Identifies 2 & 7 as sides "2" ² + "7" ² $\sqrt{("2"2 + "7"2)}$	7.28	4	B1 M1 "2" & "7" must be identified as sides M1 dep A1 awrt 7.28
				Total 6 marks

9 (a)	$-6/3 \leq x < 9/3$	$-2 \leq x < 3$	2	M1 M1 for $-6/3 \leq x$ or $x < 9/3$ A1 SC B1 for $-2 < x < 3$
(b)		-2, -1, 0, 1, 2	2	B2 B1 for five correct values and one wrong value or four correct values with no wrong value
				Total 4 marks

10	22 x 25000 (=550000) "550000" ÷ 100000	5.5	3	M1 or 25000 cm = 0.25km or 22 ÷ 100000 M1 or 22 x 0.25 or "0.00022" x 25000 A1
				Total 3 marks

11	10 x 24, 30 x 20, 50 x 9, 70 x 12, 90 x 15 10 x 24 + 30 x 20 + 50 x 9 + 70 x 12 + 90 x 15 240 + 600 + 450 + 840 + 1350	3480	3	M1 at least 4 products $f \times x$ used consistently within interval (inc end points) M1(dep) for $\sum fx$ with use of at least 4 correct 1/2 way values A1
				Total 3 marks