

# Silver Level

## Mark Scheme 7

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Silver
Booklet	Mark Scheme 7

**Time Allowed:** 60 minutes

**Score:** /50

**Percentage:** /100

**Grade Boundaries:**

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

1 (a)		0.85 on lower branch Binary tree structure All labels & values correct	3	B1 on lower branch for first game B1 B1 0.15 & 0.85 in correct position + labels
(b)	0.15 x 0.15	0.0225 oe	2	M1 A1 9/400 etc
				<b>Total 5 marks</b>

2 (i)		15	1	B1
(ii)		23	1	B1
(iii)		2	1	B1
(iv)		12	1	B1
				<b>Total 4 marks</b>

3	(i)	$3 \times 2 + 4 \times 5 + 5 \times 14 + 6 \times 19 + 7 \times 10$ <b>or</b> $6 + 20 + 70 + 114 + 70$ <b>or</b> 280		4	M1 for sum of products condone one error
		"280" ÷ 50			M1 (dep) for division by 50
		5.6			A1 cao Also accept 6 if both method marks scored and 5 following 5.6
	(ii)	5			B1 ft from their (i)
					<b>Total 4 marks</b>

4	(a)		(3, 2)	2	B2 B1 for 3 B1 for 2
	(b)	arc(s) centre $P$ radius $PA$		2	M1
			Cross at (6, 3)		A1 Accept any clear indication. Condone omission of label if no ambiguity
					<b>Total 4 marks</b>

5	(a)(i)	$\frac{15}{100} \times 280$ or 42		3	M1	M2 for $\frac{85}{100} \times 280$
		280 – "42"			M1 dep	
			238		A1	cao
	(ii)	$\frac{24}{0.15}$ or $24 \times \frac{100}{15}$		3	M2	for $\frac{24}{0.15}$ or $24 \times \frac{100}{15}$ M1 for $\frac{24}{15}$ or 1.6
			160		A1	cao
	(b)	2 + 3 or 5		3	M1	5 may be denominator of a fraction or coefficient in an equation such as $5x = 320$
		$\frac{320}{5}$ or $320 \div "5"$ or 64 or $\frac{7}{5}$ oe			M1	dep
			448		A1	Also award for 128 : 192 : 448
					<b>Total 9 marks</b>	

6	(a)(i)	$\angle ABC = 68^\circ$ or $\angle BCD = 112^\circ$		4	M1	May be stated or marked on diagram
			68		A1	cao
	(ii)	$360 - (67 + 112 + "68" + 74)$			M1	
			39		A1	ft from their (a)(i) Award 2 marks if the answer to (ii) is 107 – answer to (i)
	(b)	$(5 - 2) \times 180$ or $3 \times 180$ <b>or</b> $(2 \times 5 - 4) \times 90$ or $6 \times 90$ <b>or</b> $360 + 180$ <b>or</b> $(180 - 67) + (180 - 112) +$ $(180 - "68") + (180 - 74) +$ $(180 - "39")$ <b>or</b> $113 + 68 + 112 + 106 + 141$		2	M1	Condone 1 incorrect interior angle
			540		A1	Cao <b>SC:</b> Award B1 for answer of 108
						<b>Total 6 marks</b>
7		$3x + 32 = 87 - 2x$		4	M1	for $3x + 32 = 87 - 2x$
		$5x = 55$ or $5x - 55 = 0$ or $5x = 87 - 32$ or $3x + 2x = 55$			M2	for correct rearrangement with $x$ terms on one side and numbers on the other AND correct collection of terms on at least one side or for correct collection to 2 terms
					M1	for correct rearrangement with $y$ terms on one side and numbers on the other e.g $3x + 2x = 87 - 32$ <b>or</b> correct collection and simplification of either numbers or $x$ terms eg $5x + 32 = 87$ <b>or</b> $5x = a$ <b>or</b> $bx = 55$
			11		A1	dependent on at least one M1
						<b>Total 4 marks</b>

8		Product of positive integer powers of both 3 and 5 only		2	M1	Powers and/or products may be evaluated eg 15
			$3^2 \times 5$ or 45		A1	Also accept $9 \times 5$
<b>Total 2 marks</b>						

9		$\angle OAP = 90^\circ$ or $\angle AOB = 64^\circ$		3	B1	May be implied by second B1	May be stated or marked on diagram
		$\angle OAB = 58^\circ$ or $\angle OBA = 58^\circ$			B1		
			122		B1	Award full marks for a correct answer	
<b>Total 3 marks</b>							

10	(a)	$10x + 6y = 18$ $21x - 6y = 75$	$35x + 21y = 63$ $35x - 10y = 125$		4	M1	for coefficients of x or y the same <b>or</b> for correct rearrangement of one equation followed by substitution in the other eg $5x + 3\left(\frac{7x - 25}{2}\right) = 9$
		$x = 3$	$y = -2$			A1	
		eg $5 \times 3 + 3y = 9$				M1	(dep on first M1) for substituting for the other variable
			3 -2			A1	cao dep Award full marks for correct values if at least first M1 scored
	(b)		3 -2	1		B1	ft from (a)
<b>Total 5 marks</b>							

11		$3380 \div 1.04$ <b>or</b> $3250$ <b>or</b> $1.04^2$ <b>or</b> 1.0816		4	M1	or M2 for $3380 \div 1.04^2$ oe	
		$3250 \div 1.04$			M1		
		3125			A1		
			255		A1	cao	
<b>Total 4 marks</b>							