Section A

1	(a)	(N = 0·5757...) 100N = 57·5757... Subtract to give 99N = 57	M1 A1	**or** 100 × 0·5757... – 0·5757... = 57 Must mention subtract **or** show both lines of proof.
	(b)	$\frac{19}{330}$	2	**M1:** $\frac{57}{990}$ or $\frac{5.7}{99}$ **or** their fraction cancelled to lowest terms **or** 1000N = 57·57... **and** 10N = ·5757...
			4	
2		150°, 390°, 510°	2	**W1:** 1 correct
			2	
3	(a)	$\frac{x+5}{(x-1)(x+1)}$ (o.e.); mark final ans	3	**M2:** $\frac{3x+3-2x+2}{(x-1)(x+1)}$ (may be two terms) must include denominator or **M1:** $\frac{3(x+1)-2(x-1)}{(x-1)(x+1)}$; s.o.i.
	(b)	$\frac{x+3}{x+4}$ mark final ans	3	**M1:** $(x-3)(x+3)$ seen **M1:** $(x-3)(x+4)$ seen
			6	
4		OC is common OA = OB **or** AC = BC with reason 3rd side with valid reason **and** SSS	M1 M1 A1	lines must have 2 letters After first **M1** only, or 0: **SC1:** OA = OB **and** AC = BC (but not 'therefore AC = BC') **and** SSS
			3	
5	(a) (i)	2*a*	1	Condone + 0*b*
	(ii)	3*b* – 3*a*	1	**M1:** $\vec{OD}$ = 2*b* **or** – 'their (i)' seen
	(iii)	2*b* – 2*a*; condone unsimplified	2	After (i) 6*a*, (ii) 9*b* - 9*a*, allow: **SC2:** (iii) 6*b* – 6*a* **or** 2*a* – 2*b*, following 3*a* – 3*b*
	(b)	AB is parallel to CD AB = 1.5 × CD (o.e.), **or** f.t. from (ii) & (iii)	1 1	 both must f.t. from (ii) and (iii) involving *a* and *b*
			6	
6	(a)	$y = f(2x)$	2	**SC1:** $y = f(\frac{x}{2})$
	(b)	$y = f(x+2)$	2	**SC1:** $y = f(x-2)$
			4	
			25	