Question Number	Scheme	Marks
4 (a)	$LQ = 28$ or $UQ = 48$	B1
	$'48'+1.5('48'-'28')[=78]$	M1
	90 > 78 so, 90 is an outlier*	A1*
		(3)
(b)	$b = \frac{1735.6}{1667.6}[=1.04...]$	M1
	$a = 38.2 - 'b'(42.2)[=-5.72....]$	M1
	$s = -5.72 + 1.04f$ *	A1*
		(3)
(c)	For every **extra mark** (oe) in **French/*f*** , **Spanish/*s* goes up** (oe) by [on average] **1.04 marks**	B1
		(1)
(d) (i)	$s = -5.72 + 1.04 \times 55 = 51.48$ awrt 51.5	M1 A1
(ii)	$s = -5.72 + 1.04 \times 18 = 13$	A1
		(3)
(e)	• The first estimate is an interpolation/The second estimate is an extrapolation • 55 is within the range of data/18 is not within the range of data • 55 is closer to the mean/18 is further away from the mean …..so 51.5 is the more reliable estimate	M1 A1
		(2)

	Notes	Total 12
(a)	**B1**	For either LQ or UQ correct (may be seen in calculation for M1)
	M1	Correct use of $Q_3 + 1.5 \times (Q_3 - Q_1)$ ft their LQ and their UQ provided their UQ > their LQ
	A1*	For both LQ and UQ correct and identifying 90>78 or 90 is an outlier Answer is given so no incorrect working can be seen
(b)	**M1**	For a correct method to find the gradient
	M1	For a correct method to find the intercept (division by 11 is M0)
	A1*	Cao (dep on both M marks) must see printed answer $s = -5.72 + 1.04f$
(c)	**B1**	For a correct numerical interpretation of the gradient in context which must include marks at least once
(d) (i)	**M1**	For a correct substitution into the regression equation. May be seen in (i) or (ii) or implied by one correct answer
	A1	awrt 51.5 Allow 51 or 52
(ii)	**A1**	13 or awrt 13.0
(e)	**M1**	For any equivalent correct reason Ignore extraneous non-contradictory comments For the second bullet point **must** be clear that they are referring to French marks (24,, *f* ,, 68). Do **not** allow comments that refer to the range of Spanish marks e.g. ‘‘51.5’ is within the range of data/‘13’ is not within the range of data’ Do **not** allow ‘55 is closer to the median (than 18)’
	A1	For clearly identifying the estimate from part (d)(i): 51.5 or 55 or (i) or ‘the first estimate’ , etc.