

Question			Answer	Marks	AOs	Guidance	
16	(a)		Comment about shape of distribution for first graph	B1	2.2b	Comments can be combined e.g Both distributions negatively skewed gets both marks e.g. 1974 distribution has greater spread than 2014 gets both marks	If zero scored, SC1 for “The 2014 distribution is shifted to the right of the 1974 distribution” oe
			Comment about shape of distribution for second graph	B1	2.2b		
				[2]			
16	(b)	(i)	Life expectancy went down [between 1974 and 2014] in [at least] one country	E1 [1]	2.2a	NOT increase in life expectancy is negative	
16	(b)	(ii)	The box plot is not symmetrical.	B1 [1]	3.5b		
16	(b)	(iii)	Not appropriate with reason	E1 [1]	2.4	e.g. [some] values of life expectancy are estimates The values of life expectancy are not available to this level of accuracy	
16	(b)	(iv)	Comment about life expectancy at birth data for countries and not individual people	B1 [1]	2.4		
16	(c)		Use of $Q3 + 1.5 \times (Q3 - Q1)$	M1	1.2		
			$15.873 + 1.5(8.9154) = 29.2461$ (years)	M1	1.1		
			The maximum value is an outlier as $30.742 > 29.2461$.	A1	1.1		
				[3]			

Question			Answer	Marks	AOs	Guidance	
16	(d)	(i)	approx 60.8 - 37.5= 23.3 (years)	M1	3.1b	Attempt to estimate change in life expectancy at birth soi.	
		(ii)	Change in life expectancy for Sweden approx 81.9 - 72.5 = 9.4 (years)	A1	1.1	FT 'their 37.5 between 35 - 40'	
			E.g. Countries with a lower life expectancy in 1974 have greater opportunity to increase life expectancy in 2014.	A1	1.1	FT 'their 72.5 between 70 - 75'	
		(iii)		E1	3.2a	OR Countries with a higher life expectancy in 1974 have less opportunity to increase life expectancy in 2014.	
				[4]			
16	(e)	(i)	30.98 + 0.67 × 37.4 = 56.0 (years)	M1 A1 [2]	3.4 1.1		
16	(e)	(ii)	E.g. Large amount of scatter at the lower values [and South Sudan is 37.4]. E.g. Not having the data value could indicate that there are problems in the country which could mean it does not follow the pattern for other countries	E1 E1 [2]	3.5b 3.5b	E1 Reason inferred from Fig 16.4 E1 For knowing why data may be missing	
16	(f)		Correct method Clearly explained 6	M1 E1 A1 [3]	3.1b 2.4 1.1	e.g. draw “ y = x” on graph e.g. The value on the vertical axis must be lower than the one on the horizontal axis FT their correct method	