

Question	Scheme	Marks	AOs
<b>2(a)(i)</b> <b>(ii)</b>	$Q_2 = 11$	B1	1.1b
	Range = $(21 - 4) = 17$	B1	1.1b
		<b>(2)</b>	
<b>(b)</b>	$H_0 : \rho = 0 \quad H_1 : \rho < 0$	B1	2.5
	$cv = -0.5214$	M1ft	1.1b
	$-0.9286 < -0.5214$ so in critical region Sufficient evidence to reject $H_0$ and supports Xiang's belief.	A1	2.2b
		<b>(3)</b>	
<b>(c)</b>	(As temperatures are increasing) improving scores would have opposite affect so this result gives stronger evidence for her belief.	B1	2.4
		<b>(1)</b>	

**(6 marks)**

**Notes:**

**(a)(i)**

**B1:** cao 11

**(ii)**

**B1:** cao 17

**(b)**

**B1:** must be in terms of  $\rho$

**M1:** ft on their  $H_1$  (2 tail cv would be  $\pm 0.6021$ )

**A1:** need correct conclusion in context, consistent with their cv

**(c)**

**B1:** any comment which suggests stronger evidence for her belief.