Spearman's Rank Correlation Coefficient

Null Hypothesis –

Alternative Hypothesis –

x	***R***	*y*	Obs (n)	Value (x)	Rank (R_x)	Value (y)	Rank (R_y)	D=(R_x - R_y)	D^2
	1		1						
	2		2						
	3		3						
	4		4						
	5		5						
	6		6						
	7		7						
	8		8						
	9		9						
	10		10						
	11		11						
	12		12						
	13		13						
	14		14						
	15		15						
To check that your rankings are correct; **ΣD** should equal zero.							**Σ**		

Spearman's coefficient of correlation is calculated by the following equation; $R_s = 1 - \left(\frac{6\sum D^2}{n^3 - n}\right)$

ΣD^2 =

n =

Spearman's Rank Correlation Coefficient

$\Sigma D^2 =$ ☐ $\Rightarrow$ $6\Sigma D^2 =$ ☐

$n =$ ☐ $\Rightarrow$ $n^3 =$ ☐ $\Rightarrow$ $n^3-n =$ ☐

$R_s =$ $R_s = 1 - \left(\frac{6\sum D^2}{n^3 - n}\right)$ $\Rightarrow$ 1 - (☐) $\Rightarrow$ $R_s =$ 1 - ☐

$R_s =$ ☐

NB You do not need to worry about the +/- value. It is there to tell you the nature of the relationship (positive or negative)

Table of Critical Values at the 95% Confidence level

Number of pairs (n)		Number of pairs (n)	
5	1.000	**13**	0.560
6	0.886	**14**	0.539
7	0.786	**15**	0.521
8	0.738	**16**	0.503
9	0.683	**17**	0.488
10	0.649	**18**	0.472
11	0.618	**19**	0.460
12	0.587	**20**	0.447

$R_s =$ ☐

n = ☐

Critical Value = ☐

Critical values sourced from: Moore. P. and Cobby. J., (1998) *Introductory Statistics for Environmentalists*, Prentice Hall, London. P244.

If R_s is greater than or equal to the critical value you can reject the Null hypothesis and accept the Alternative hypothesis

We can **accept / reject** the Null hypothesis

We can **accept / reject** the Alternative hypothesis