10 A researcher plans to carry out a statistical investigation to test whether there is linear correlation between the time (T weeks) from conception to birth, and the birth weight (W grams) of new-born babies.

(a) Explain why a 1-tail test is appropriate in this context. [1]

The researcher records the values of T and W for a random sample of 11 babies. They calculate Pearson's product-moment correlation coefficient for the sample and find that the value is 0.722.

(b) Use the table below to carry out the test at the 1% significance level. [5]

Critical values of Pearson's product-moment correlation coefficient.

1-tail test	5%	2.5%	1%	0.5%
2-tail test	10%	5%	2.5%	1%
10	0.5494	0.6319	0.7155	0.7646
11	0.5214	0.6021	0.6851	0.7348
12	0.4973	0.5760	0.6581	0.7079
13	0.4762	0.5529	0.6339	0.6835

n labels the rows 10, 11, 12, 13.