

DO NOT WRITE IN THIS AREA

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- 20** A biased six-sided die is numbered 1, 2, 3, 4, 5 and 6.

The table shows the probability of each possible score when the die is rolled once.

Score	1	2	3	4	5	6
Probability	0.2	0.1	x	0.15	0.3	0.1

- (a) Find the value of x .

$$x = \dots$$

(1)

The die is to be rolled twice.

- (b) Find the probability that the sum of the scores for the two rolls is 10.

$$\dots$$

(3)

(Total for Question 20 is 4 marks)

- 21** (a) Express 729 as a power of 3

$$\dots$$

(1)

- (b) Hence solve $3^{2x+5} = 729^{5-x}$

Show your working clearly.

$$x = \dots$$

(3)

(Total for Question 21 is 4 marks)

