Practice worksheet | Discrete probability distributions

Random variables and probability tables

Name: _____ Date: _____

6 questions | 13 marks

1. Let X count the number of goals in a match. Explain why X is discrete. [1 mark]

2. X takes values 0, 2 and 5 with probabilities 0.2, 0.5 and p. Find p. [2 marks]

3. For values -1, 0 and 1, probabilities are $k, 4k, 3k$. Find k and the probability of a positive value. [3 marks]

4. A proposed table uses probabilities 0.4, −0.1 and 0.7. Is it valid? Explain. [2 marks]

5. A bag contains three red and one blue counter. One is selected fairly. Define $X = 1$ for red and $X = 0$ for blue. Give its distribution. [2 marks]

6. Two fair independent coin tosses are made. Let Y be the number of tails. Give all values and probabilities. [3 marks]