1 An ordinary fair die is thrown repeatedly until a 5 is obtained. The number of throws taken is denoted by the random variable X.

(a) Write down the mean of X. [1]

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(b) Find the probability that a 5 is first obtained after the 3rd throw but before the 8th throw. [2]

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(c) Find the probability that a 5 is first obtained in fewer than 10 throws. [2]

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