4. An electrical shop sells 4 watt, 5 watt and 6 watt LED light bulbs.

For customers who buy exactly one LED light bulb from the shop

- 25% are 4 watt and sell for a price of £5
- 40% are 5 watt and sell for a price of £6
- the rest are 6 watt and sell for a price of £7

(a) Find the mean **price** of all LED light bulbs sold by the shop to these customers.

(2)

A random sample of size 3 is taken from these customers.

(b) List all the possible combinations of **prices** paid by the customers in this sample.

(2)

The random variable R is the range of the **prices** for this sample of 3 customers.

(c) Find the sampling distribution of R

(6)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

Question 4 continued

Question 4 continued

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

Question 4 continued

(Total for Question 4 is 10 marks)