

15

It is given that

$$X \sim B(48, 0.175)$$

15 (a)

Find the mean of X

[1 mark]

15 (b)

Show that the variance of X is 6.93

[1 mark]

15 (c)

Find $P(X < 10)$

[1 mark]

15 (d)

Find $P(X \geq 6)$

[2 marks]

15 (e)

Find $P(9 \leq X \leq 15)$

[2 marks]

15 (f)

The aeroplanes used on a particular route have 48 seats.

The proportion of passengers who use this route to travel for business is known to be 17.5%

Make **two** comments on whether it would be appropriate to use X to model the number of passengers on an aeroplane who are travelling for business using this route.

[2 marks]