6. A manufacturer fills bottles with oil.
The volume of oil in a bottle, V ml, is normally distributed with $V \sim N(100, 2.5^2)$

(a) Find $P(V > 104.9)$

(3)

(b) In a pack of 150 bottles, find the expected number of bottles containing more than 104.9 ml

(2)

(c) Find the value of v, to 2 decimal places, such that $P(V > v \mid V < 104.9) = 0.2801$

(6)

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Question 6 continued

Question 6 continued

(Total for Question 6 is 11 marks)

TOTAL FOR PAPER: 75 MARKS

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