4 Ramesh, Maya, Kalil, Chen and Andreia each have a bag containing an identical set of six cards.

There is a number on each of the six cards.
Here are the cards in each of the bags.

2	4	4	7	9	10

Ramesh takes at random **one** of the six cards in his bag.

(a) Write down the probability that the number on the card Ramesh takes is a prime number.

(1)

Maya takes at random from her bag **two** of the six cards in her bag.

(b) Find the probability that neither of the two cards has a number **4** on it.

(2)

Kalil takes at random from his bag **two** of the six cards in his bag.

(c) Find the probability that the total of the two numbers on the cards is 11

(2)

Chen takes at random **one** card at a time, without replacement, from her bag until she gets a card with a number **4** on it. She then stops taking cards from her bag.

(d) Find the probability that Chen stops taking cards from her bag before she takes the fourth card.

(2)

Andreia puts another card with a number on it into her bag so that she has seven cards in her bag.

The mean of the numbers on the seven cards in Andreia's bag is 8

(e) Find the value of the number on the card that Andreia put into her bag.

(2)

Question 4 continued

Question 4 continued

Question 4 continued

(Total for Question 4 is 9 marks)