Probability Revision Mat

Probability Essentials

1) An electronic game can show red or blue or green or yellow. The table shows the probabilities that the colour shown will be red or will be green or will be yellow. Arthur plays the game.
(a) Work out the probability that the colour shown will be blue.

Colour	red	blue	green	yellow
Probability	0.15		0.41	0.24

Janice is going to play the game 50 times.
(b) Work out an estimate for the number of times the colour shown will be yellow.

2) Josh plays a game with two sets of cards.

Set A | 1 | 2 | 4 | 5 | 7 |

Set B | 3 | 6 | 8 | 9 |

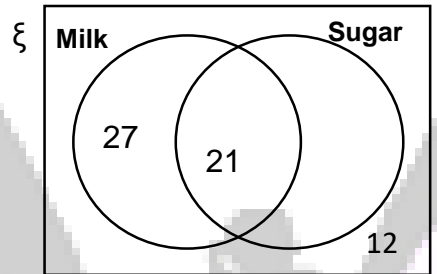Josh takes at random one card from each set. He adds the numbers on the two cards to get the total score.
(a) Complete the table to show all the possible total scores.

Set A

	1	2	4	5	7
3	4	5	7	8	10
6	7	8	10		
8					
9					

Set B

(b) What is the probability that Josh's total score will be greater than 12?

Venn Diagrams

100 men who drink coffee were asked if they have milk and sugar in their coffee.
Some of the results are shown in the Venn diagram.
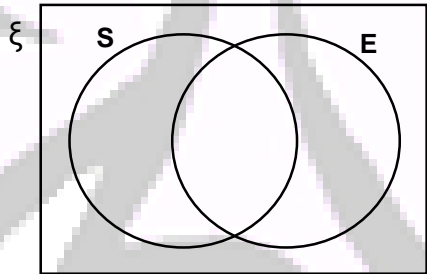(a) Complete the Venn diagram.

ξ Milk   Sugar

27   21

12

(b) What is the probability that one of the men, chosen at random, has milk but no sugar in his coffee?

(c) What is the probability that one of the men, chosen at random, has no milk and no sugar in his coffee?

Set Theory

ξ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12}
S = square numbers, E = even numbers
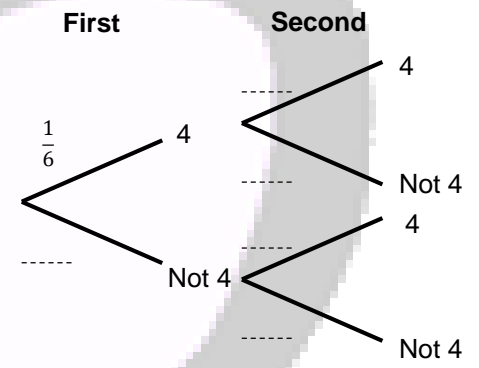(a) Complete the Venn diagram.

ξ   S   E

One of the numbers is chosen at random.
(b) Write down P (S)

(c) Write down P (E')
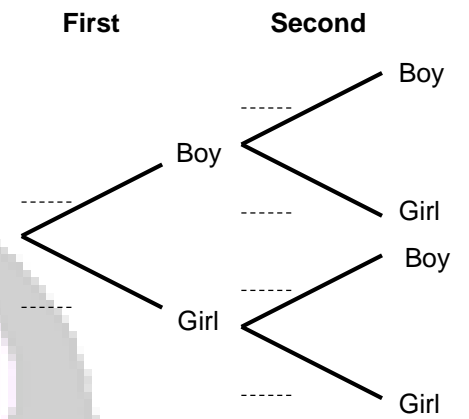
(d) Write down P (S ∩ E)

Probability Trees

1) An ordinary fair dice is rolled.
(a) Complete the tree diagram for the dice landing on the number 4.

First   **Second**

$\frac{1}{6}$ 4   ------   4
                ------   Not 4
------   Not 4   ------   4
                ------   Not 4

(b) Work out the probability of the dice landing on 4 both times.

2) A team has 7 boys and 3 girls. Stevie chooses two of the team at random.
(a) Complete the probability tree diagram.

First   **Second**

Boy   ------   Boy
------   ------   Girl
Girl   ------   Boy
------   ------   Girl

(b) Work out the probability that he chooses one boy and one girl.