5.2 Conditional Probability (Foundation): 1-hour Pack

Total Marks

EDEXCEL 1ST0 · Calculator allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The two-way table shows information about 56 people.

	walk	bus	Total
adults	19	8	27
children	11	18	29
Total	30	26	56

(a) A person is chosen at random. Find the probability that they are in the group 'adults'.
(b) A person is chosen at random. Find the probability that they are in the group 'walk'.
Give each answer as a fraction in its simplest form.

(Total for Question 1 is 3 marks)

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2 The two-way table shows information about 91 people.

	left-handed	right-handed	Total
Year 10	20	24	44
Year 11	11	36	47
Total	31	60	91

(a) A person is chosen at random. Find the probability that they are in the group 'Year 10'.
(b) A person is chosen at random. Find the probability that they are in the group 'left-handed'.
Give each answer as a fraction in its simplest form.

(Total for Question 2 is 2 marks)

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3 A bag contains 4 red and 4 black beads. One is taken at random and not replaced. Given that the first is red, work out the probability that the second is also red. Give your answer as a fraction in its simplest form.

(Total for Question 3 is 3 marks)

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4 The two-way table shows information about 74 people.

	tea	coffee	Total
adults	5	36	41
children	28	5	33
Total	33	41	74

(a) A person is chosen at random. Find the probability that they are in the group 'adults'.
(b) A person is chosen at random. Find the probability that they are in the group 'tea'.
Give each answer as a fraction in its simplest form.

(Total for Question 4 is 2 marks)

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5 The two-way table shows information about 88 people.

	left-handed	right-handed	Total
adults	18	21	39
children	20	29	49
Total	38	50	88

(a) A person from the 'adults' group is chosen at random. Find the probability that they are in the group 'left-handed'.
(b) A person from the 'left-handed' group is chosen at random. Find the probability that they are in the group 'children'.
Give each answer as a fraction in its simplest form.

(Total for Question 5 is 4 marks)

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6 A bag contains 5 pink and 6 yellow beads. Two are taken at random without replacement. Work out the probability that they are different colours. Give your answer as a fraction in its simplest form.

(Total for Question 6 is 3 marks)

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7 The two-way table shows information about 109 people.

	walk	bus	Total
boys	39	28	67
girls	32	10	42
Total	71	38	109

(a) A person is chosen at random. Find the probability that they are in the group 'boys'.
(b) A person is chosen at random. Find the probability that they are in the group 'walk'.
Give each answer as a fraction in its simplest form.

(Total for Question 7 is 2 marks)

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8 The two-way table shows information about 77 people.

	tea	coffee	Total
adults	34	14	48
children	7	22	29
Total	41	36	77

(a) A person from the 'adults' group is chosen at random. Find the probability that they are in the group 'tea'.
(b) A person from the 'tea' group is chosen at random. Find the probability that they are in the group 'children'.
Give each answer as a fraction in its simplest form.

(Total for Question 8 is 4 marks)

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9 A bag contains 4 white and 6 pink beads. One is taken at random and not replaced. Given that the first is white, work out the probability that the second is also white. Give your answer as a fraction in its simplest form.

(Total for Question 9 is 3 marks)

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10 The two-way table shows information about 96 people.

	walk	bus	Total
members	33	19	52
non-members	36	8	44
Total	69	27	96

(a) A person is chosen at random. Find the probability that they are in the group 'members'.
(b) A person is chosen at random. Find the probability that they are in the group 'walk'.
Give each answer as a fraction in its simplest form.

(Total for Question 10 is 4 marks)

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11 The two-way table shows information about 111 people.

	left-handed	right-handed	Total
adults	15	31	46
children	30	35	65
Total	45	66	111

(a) A person from the 'adults' group is chosen at random. Find the probability that they are in the group 'left-handed'.
(b) A person from the 'left-handed' group is chosen at random. Find the probability that they are in the group 'children'.
Give each answer as a fraction in its simplest form.

(Total for Question 11 is 4 marks)

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12 A bag contains 3 blue and 3 yellow sweets. One is taken at random and not replaced. Given that the first is blue, work out the probability that the second is also blue. Give your answer as a fraction in its simplest form.

(Total for Question 12 is 3 marks)

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13 The two-way table shows information about 71 people.

	walk	bus	Total
Year 10	15	9	24
Year 11	12	35	47
Total	27	44	71

(a) A person from the 'Year 10' group is chosen at random. Find the probability that they are in the group 'walk'.
(b) A person from the 'walk' group is chosen at random. Find the probability that they are in the group 'Year 11'.
Give each answer as a fraction in its simplest form.

(Total for Question 13 is 4 marks)

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14 The two-way table shows information about 64 people.

	pass	fail	Total
boys	16	14	30
girls	11	23	34
Total	27	37	64

(a) A person is chosen at random. Find the probability that they are in the group 'boys'.
(b) A person is chosen at random. Find the probability that they are in the group 'pass'.
Give each answer as a fraction in its simplest form.

(Total for Question 14 is 3 marks)

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15 A bag contains 4 green and 8 black beads. Two are taken at random without replacement. Work out the probability that the second is black. Give your answer as a fraction in its simplest form.

(Total for Question 15 is 3 marks)

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16 The two-way table shows information about 72 people.

	vaccinated	not vaccinated	Total
Year 10	10	31	41
Year 11	24	7	31
Total	34	38	72

(a) A person is chosen at random. Find the probability that they are in the group 'Year 10'.
(b) A person is chosen at random. Find the probability that they are in the group 'vaccinated'.
Give each answer as a fraction in its simplest form.

(Total for Question 16 is 3 marks)

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17 The two-way table shows information about 88 people.

	walk	bus	Total
boys	21	11	32
girls	30	26	56
Total	51	37	88

(a) A person is chosen at random. Find the probability that they are in the group 'boys'.
(b) A person is chosen at random. Find the probability that they are in the group 'walk'.
Give each answer as a fraction in its simplest form.

(Total for Question 17 is 3 marks)

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18 A bag contains 7 white and 8 green marbles. One is taken at random and not replaced. Given that the first is white, work out the probability that the second is also white. Give your answer as a fraction in its simplest form.

(Total for Question 18 is 3 marks)

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19 The two-way table shows information about 101 people.

	tea	coffee	Total
members	34	39	73
non-members	13	15	28
Total	47	54	101

(a) A person is chosen at random. Find the probability that they are in the group 'members'.
(b) A person is chosen at random. Find the probability that they are in the group 'tea'.
Give each answer as a fraction in its simplest form.

(Total for Question 19 is 2 marks)

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Mark scheme · 5.2 Conditional Probability (Foundation): 1-hour Pack

Question 1

27/56 oe	**A1**
30/56	**M1**
15/28 oe	**A1**

Answer: (a) 27/56; (b) 15/28

Question 2

44/91 oe	**B1**
31/91 oe	**B1**

Answer: (a) 44/91; (b) 31/91

Question 3

7 left in the bag	**M1**
3 red remaining	**M1**
3/7 oe	**A1**

Answer: 3/7

Question 4

41/74 oe	**B1**
33/74 oe	**B1**

Answer: (a) 41/74; (b) 33/74

Question 5

18/39 (denominator is the row total)	**M1**
6/13 oe	**A1**
20/38 (denominator is the column total)	**M1**
10/19 oe	**A1**

Answer: (a) 6/13; (b) 10/19

Question 6

5/11 x 6/10 for one order	**M1**
adds the two orders	**M1**
6/11 oe	**A1**

Answer: 6/11

Question 7

67/109 oe	**B1**
71/109 oe	**B1**

Answer: (a) 67/109; (b) 71/109

Question 8

34/48 (denominator is the row total)	**M1**
17/24 oe	**A1**
7/41 (denominator is the column total)	**M1**
7/41 oe	**A1**

Answer: (a) 17/24; (b) 7/41

Question 9

9 left in the bag	**M1**
3 white remaining	**M1**
1/3 oe	**A1**

Answer: 1/3

Question 10

52/96	**M1**
13/24 oe	**A1**
69/96	**M1**
23/32 oe	**A1**

Answer: (a) 13/24; (b) 23/32

Question 11

15/46 (denominator is the row total)	**M1**
15/46 oe	**A1**
30/45 (denominator is the column total)	**M1**
2/3 oe	**A1**

Answer: (a) 15/46; (b) 2/3

Question 12

5 left in the bag	**M1**
2 blue remaining	**M1**
2/5 oe	**A1**

Answer: 2/5

Question 13

15/24 (denominator is the row total)	**M1**
5/8 oe	**A1**
12/27 (denominator is the column total)	**M1**
4/9 oe	**A1**

Answer: (a) 5/8; (b) 4/9

Question 14

30/64	**M1**
15/32 oe	**A1**
27/64 oe	**A1**

Answer: (a) 15/32; (b) 27/64

Question 15

considers both possible first colours	**M1**
multiplies and adds branch probabilities	**M1**
2/3 oe	**A1**

Answer: 2/3

Question 16

41/72 oe	**A1**
34/72	**M1**
17/36 oe	**A1**

Answer: (a) 41/72; (b) 17/36

Question 17

32/88	**M1**
4/11 oe	**A1**
51/88 oe	**A1**

Answer: (a) 4/11; (b) 51/88

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Question 18

14 left in the bag	**M1**
6 white remaining	**M1**
3/7 oe	**A1**

Answer: 3/7

Question 19

73/101 oe	**B1**
47/101 oe	**B1**

Answer: (a) 73/101; (b) 47/101

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