FOUNDATION & HIGHER

SAME AT BOTH TIERS

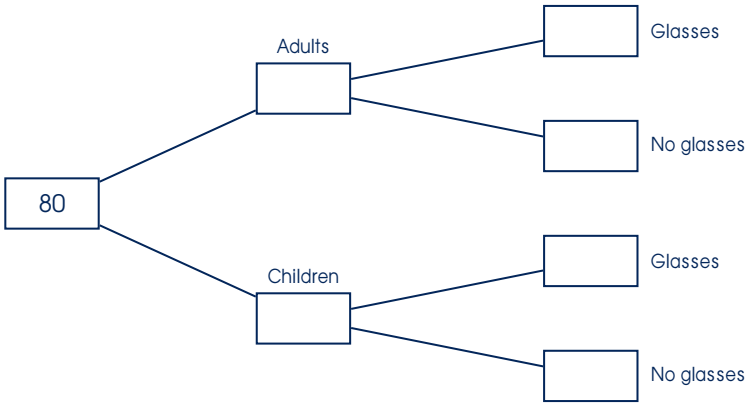
Name ..... Class .....

P1: Recording outcomes

Frequency tables, two-way tables and frequency trees

20 marks · 25 minutes · Non-calculator

1) 80 people were asked if they wear glasses. 35 of them were adults. 21 of the adults and 12 of the children wear glasses. Complete the frequency tree.



[Question 1: 3 marks]

2) Use your frequency tree from question 1.

(a) How many of the 80 people wear glasses?

.....

(1)

(b) What fraction of the children wear glasses? Give your answer in its simplest form.

.....

(1)

[Question 2: 2 marks]

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3) A dice was rolled 40 times. The table shows the results.

Score	1	2	3	4	5	6
Frequency	5	8	6	7	9	

(a) Find the frequency for a score of 6.

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(1)

(b) Find the relative frequency of a score of 6.

.....

(1)

(c) Write down the modal score.

.....

(1)

(d) How many times was an even number rolled?

.....

(1)

[Question 3: 4 marks]

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4) A spinner was spun 50 times. It landed on red 18 times, blue 22 times and green 10 times.

(a) Find the relative frequency of blue.

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(1)

(b) Estimate the probability that it lands on green.

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(1)

[Question 4: 2 marks]

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5) Complete the two-way table about how 60 students travel to school.

	Walk	Bus	Total
Boys		12	28
Girls	14		
Total	30		60

[Question 5: 3 marks]

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6) Use your table from question 5. What fraction of the girls take the bus? Give your answer in its simplest form.

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[Question 6: 1 marks]

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7) 200 cars have a safety test. 30% of the cars fail. Of the cars that fail, 40% fail on their brakes. How many cars fail on their brakes?

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[Question 7: 2 marks]

8) A coin is flipped 100 times. It lands on heads 58 times.

(a) Find the relative frequency of tails.

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(1)

(b) Do these results prove that the coin is biased? Give a reason.

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(1)

[Question 8: 2 marks]

9) Which would give a better estimate of a probability: 20 trials or 200 trials?

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[Question 9: 1 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	Adults 35: 21, 14; children 45: 12, 33	B3 (B2 for 4 or 5 values correct, B1 for 2 or 3).
2	(a) 33 (b) $\frac{4}{15}$	B1 each.
3	(a) 5 (b) 0.125 (c) 5 (d) 20	B1 each.
4	(a) 0.44 (b) 0.2	B1 each.
5	Boys walk 16; girls bus 18; girls total 32; bus total 30	B3 (B2 for 3 correct, B1 for 2).
6	$\frac{9}{16}$	B1 ft.
7	24	$200 \times 0.3 = 60$ (M1); 60×0.4 (A1).
8	(a) 0.42 (b) No; 58 is not far from 50, more trials needed	B1 each.
9	200	B1.