MEMORANDUM

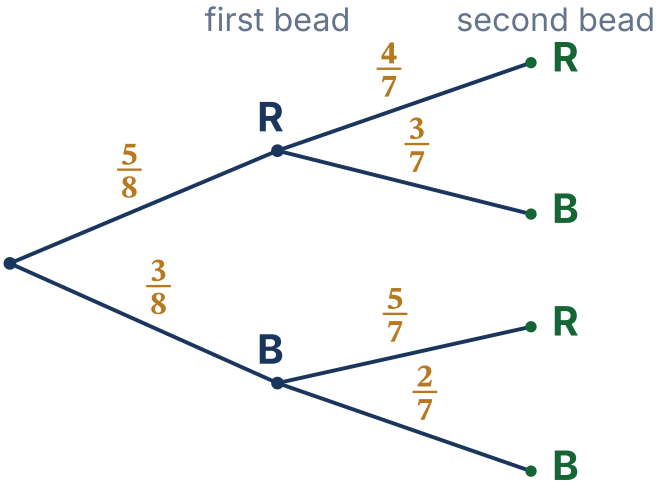
Name: ..... Class: .....

Date: .....

MARK ____ / 20

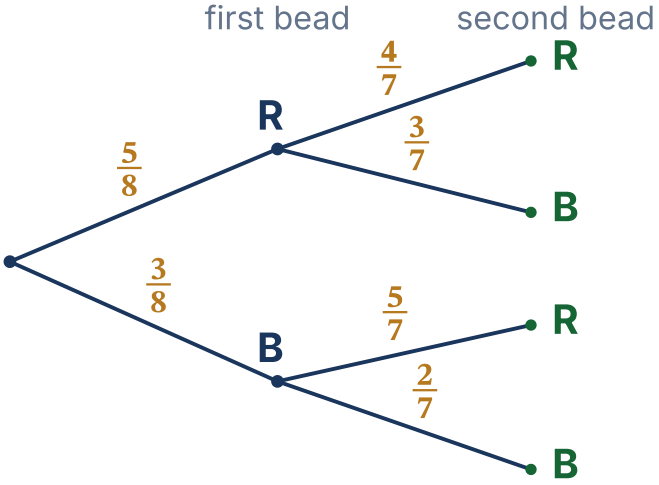
Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

1 A bag holds 5 red and 3 blue beads. Two are drawn without replacement. Draw the tree diagram and calculate P(both red). **(4)**



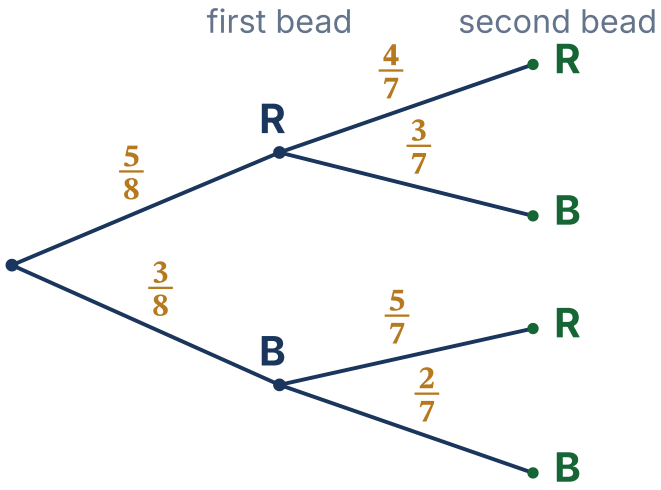
$\frac{5}{8} \times \frac{4}{7} = \frac{5}{14}$ ✓✓✓✓ (4)

2 Using the tree diagram below, calculate P(one of each colour). **(3)**



$\frac{15}{56} + \frac{15}{56} = \frac{15}{28}$ ✓✓✓ (3)

3 Using the tree diagram below, calculate P(both blue). (2)



$\frac{3}{8} \times \frac{2}{7} = \frac{6}{56} = \frac{3}{28}$ ✓✓ (2)

4 If the two beads were drawn WITH replacement, calculate P(both red). (2)

$\frac{5}{8} \times \frac{5}{8} = \frac{25}{64}$ ✓✓ (2)

5 In the two-way table (Male: 42 bus, 18 walk; Female: 28 bus, 12 walk), calculate P(female). (2)

$\frac{40}{100} = 0{,}4$ ✓✓ (2)

6 For the same table, calculate P(walks to school). (2)

$\frac{30}{100} = 0{,}3$ ✓✓ (2)

7 For the same table, determine whether 'male' and 'bus' are independent. (3)

P(M) × P(B) = 0,6 × 0,7 = 0,42 and P(M and B) = 0,42, so **yes, they are independent**. ✓✓✓ (3)

8 State the rule for multiplying along a tree and adding between paths. (2)

Multiply **along** a path (AND); add **between** paths (OR). ✓✓ (2)

TOTAL: 20 marks

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