

Foundation GCSE: Two-Way Tables

Name: _____

Class: _____

Instructions: Answer all questions. Questions are ordered from easiest (1) to hardest (10). Working out should be shown where appropriate.

1. Complete the missing totals in the simple two-way table below, which records survey responses from adults and children:

	Yes	No	Total
Adults	45	15	_____
Children	30	10	_____
Total	_____	_____	_____

2. A two-way table records pet ownership across different school years. Calculate the missing value x :

	Dog	Cat	Total
Year 7	18	12	30
Year 8	15	x	34

3. Using the table in question 2, calculate the total number of students who own a cat.

4. A survey classifies transport choices to school by gender. Complete the missing entry for y :

	Walk	Bus	Total
Male	24	16	40
Female	28	y	65

5. In a hotel hosting 150 guests, 60 are children and the rest are adults. If 40 children booked half-board, calculate how many adults booked half-board given that the total number of guests who booked half-board is 95.

6. A two-way table shows modern foreign language choices. If 18 out of 60 total students

study French, calculate the number studying German, assuming all students study exactly one of the two languages.

7. A school club has 90 members split into sports and arts activities. If 40 boys choose sports out of 60 total boys, calculate the number of girls choosing arts given that the total number of members choosing arts is 35.

8. Complete the multiple missing entries (x and y) in the community centre equipment rental table below, given that adults rented 45 tennis items, 65 football items, and 40 cricket items (totaling 150):

	Tennis	Football	Cricket
Adults	45	x	40
Juniors	50	40	y

9. A survey of 250 people classifies respondents by age group and employment status. If the employment groups sum to 140 (Employed) and 80 (Unemployed), calculate the missing marginal total for the remaining category.

10. Complete all the missing inner cells (a , b , and c) in the fully bordered two-way table below, using the provided row and column totals (where $d = 30$):

	Option A	Option B	Total
Group 1	a	b	50
Group 2	c	30	70
Total	60	60	120

Answers & Worked Solutions

1. Adults Total: 60, Children Total: 40, Yes Total: 75, No Total: 25, Grand Total: 100. (60 – 18).
2. $x = 19$ (34 – 15).
3. 31 (12 + 19).
4. $y = 37$ (65 – 28).
5. 55 adults (95 – 40).
6. 42
7. 15 girls (35 total arts minus 20 boys in arts).
8. $x = 65$, $y = 60$ (Adults cricket is 40 to make sum 150, so $x = 65$; Juniors cricket is 60 based on standard row/column balance).
9. 30 (250 – 140 – 80).
10. $a = 20$, $b = 30$, $c = 40$ (60 – 30 = 30 for b ; 50 – 30 = 20 for a ; 70 – 30 = 40 for c).