

Unit R060: Spreadsheet Skills Workbook

Student Name: _____

Date: _____

Welcome to your summer independent workbook! This resource is designed to help you practice the exact foundational skills you need for your Cambridge National in IT course. Because you will be working through these activities at home during the summer break without live teacher help, every single task has clear directions, visual cues, and a complete checking guide at the back.

Part 1: Computer-Based Practical Activities

For these activities, you will need a computer or device equipped with spreadsheet software, such as **Microsoft Excel** or **Google Sheets**.

ASSIGNMENT 1 • TARGET TIME: 45 MINS

The School Trip Booking Tracker

***The Scenario:** The school's IT Department is organizing an exciting end-of-year educational trip to London. Instead of counting paper response slips by hand, your job is to build an automated, professional booking tracker. You will set up the project data grid, build calculations, apply automated discount rules, and create a visual highlight alert system.*

Phase A: Setting Up Your Grid

1. Open your spreadsheet software to start a completely fresh, blank workbook.
2. Look at the very bottom-left tab on your screen. Double-click the tab text where it says *Sheet1* and rename it to: **Booking_Tracker**.
3. Go to **Row 1**. Type the following field headings into the boxes (cells) exactly as shown here:
 - Click cell **A1** and type: **Pass Holder Name**
 - Click cell **B1** and type: **Ticket Category**
 - Click cell **C1** and type: **Base Price**
 - Click cell **D1** and type: **Quantity Ordered**
 - Click cell **E1** and type: **Booking Fee Rate**
 - Click cell **F1** and type: **Subtotal**
 - Click cell **G1** and type: **Discount Amount**
 - Click cell **H1** and type: **Final Total**

- Click cell **I1** and type: **Payment Verified?**

4. **Make it look professional:** Select row 1 by clicking the big number **1** on the far left boundary column. Change the text style to **Bold**. Click the fill color tool (the spilling paint bucket icon) and choose a dark gray or dark navy blue fill. Then, change the text color to white and center-align the row text.
5. If any heading looks cut off or hidden, hover your mouse cursor over the gray boundary lines between the column letters at the very top (for example, between A and B) and double-click. The software will automatically widen the columns perfectly!
6. Manually fill in the student and teacher rows below from row 2 down to row 6. Leave columns F, G, H, and I completely blank for now:
 - **Row 2:** Adams, John | Student | 12.50 | 2 | 0.05
 - **Row 3:** Bale, Sarah | Teacher | 18.00 | 1 | 0.05
 - **Row 4:** Clarke, David | Student | 12.50 | 5 | 0.05
 - **Row 5:** Davis, Elena | Concession | 9.00 | 10 | 0.05
 - **Row 6:** Evans, George | Student | 12.50 | 3 | 0.05
7. Highlight columns **C, F, G, and H** (your money columns) by dragging across the top letters. Click the **Currency** button (the **£** or **\$** icon) so the numbers display clearly as currency with two decimal places.
8. Highlight column **E** and click the **Percentage (%)** format button on your toolbar so the fee displays correctly as **5.00%**.

Phase B: Adding Formulas and Dynamic Calculations

Crucial Spreadsheet Rule: Every single formula you write MUST begin with an equals sign (=). If you leave it out, the software will just treat your formula like a plain text sentence instead of doing math!

- 1. Calculate Subtotals (Column F):** Click on cell **F2**. We need to multiply the ticket base price by the quantity ordered, and then add the 5% booking fee. Type this formula exactly: **= (C2*D2) * (1+E2)** and hit Enter.
Time-saving trick: Click back on cell F2. Notice the tiny square on the bottom-right corner of the cell box. Click and drag that tiny box straight down to cell F6. The software will instantly do the math for all the other rows!
- 2. Apply a Conditional Group Discount (Column G):** The school offers a reward for large groups: if an individual order contains **5 or more** tickets, they get a flat 10% discount subtracted from their subtotal.
Click on cell **G2** and type this exact IF-statement: **=IF(D2>=5, F2*0.10, 0)** and hit Enter.
What this tells the computer: IF the Quantity in D2 is greater than or equal to 5, multiply the Subtotal in F2 by 0.10 (10%). Otherwise, make the discount 0. Drag this box down from G2 to G6.
- 3. Calculate Final Totals (Column H):** Click on cell **H2**. Type **=F2-G2** to subtract the discount column from your subtotal column. Press Enter and drag the formula down to row 6.
- 4. Create Summary Matrix Boxes:** Move down the page. In cell **A9**, type **Total Tickets Sold**. In cell **A10**, type **Gross Revenue Collected**. In cell **A11**, type **Average Booking Order Cost**.
 - In cell **D9**, type: **=SUM(D2:D6)** to automatically add up all ticket quantities.
 - In cell **H10**, type: **=SUM(H2:H6)** to find the total sum of all money collected.
 - In cell **H11**, type: **=AVERAGE(H2:H6)** to find the average amount spent on an order.

Phase C: Interface Enhancements and Visual Polish

- 1. Sort Data Alphabetically:** Highlight cells from **A2 down to I6** (make sure you do not include the top headers or the bottom total boxes). Go to the top menu bar, click **Data**, look for **Sort Range**, and select **Column A (A to Z)**. Watch your data instantly sort itself cleanly into alphabetical order without breaking!
- 2. Set a Visual Alert (Conditional Formatting):** Highlight cells **H2 to H6**. Click *Format > Conditional Formatting*. Set the rule condition to look for values "Greater than or equal to 50". Choose a soft pink or light red background color and dark red text. This will automatically highlight expensive orders so staff notice them instantly.
- 3. Define Gridlines:** Highlight everything from cell **A1 all the way down to I11**. Click the **Borders** icon on your toolbar and select **All Borders**. This frames your project nicely with clean black gridlines.

Check Your Work (Reference Solution Sheet):

Compare your on-screen results with the verification data block below to ensure your formulas worked correctly:

Grid	A	B	C	D	E	F	G	H	I
1	Pass Holder Name	Ticket Category	Base Price	Qty	Fee Rate	Subtotal	Discount	Final Total	Verified?
2	Adams, John	Student	£12.50	2	5.00%	£26.25	£0.00	£26.25	
3	Bale, Sarah	Teacher	£18.00	1	5.00%	£18.90	£0.00	£18.90	
4	Clarke, David	Student	£12.50	5	5.00%	£65.63	£6.56	£59.06	
5	Davis, Elena	Concession	£9.00	10	5.00%	£94.50	£9.45	£85.05	
6	Evans, George	Student	£12.50	3	5.00%	£39.38	£0.00	£39.38	
7									
8									
9	Total Tickets Sold			21					
10	Gross Revenue Collected							£228.64	
11	Average Booking Order Cost							£45.73	

Part 2: Pen-and-Paper Written Planning Activities

Complete these tasks directly on this paper using a pen or pencil. These practice the essential design and code checking skills required for your IT unit.

ASSIGNMENT 2 • WRITTEN DESIGN PRACTICE

Task 2: Designing a Screen Layout (Wireframing)

What is a Wireframe? In IT, software developers always sketch a layout plan on paper before building anything on a computer. This blueprint is called a **wireframe**. It makes sure that your system looks clean, logical, and easy for any worker to navigate.

Your Task: Imagine you are designing a digital control dashboard layout for a ticket collector working at a busy festival entry gate. Sketch a clear layout design inside the box below using a pencil. Your design plan must include:

- A prominent **Main Navigation Menu Banner** across the top with 3 separate clickable buttons.
- 3 clearly labeled data input entry boxes for: **Attendee ID**, **Ticket Serial Number**, and **Gate Entry Status**.
- A small, useful **User Hint/Help Message** positioned at the bottom reminding the gate agent to use their handheld barcode scanner if their keyboard stops responding.
- Draw clear lines or write arrows pointing to your layout components explaining what font sizes and colors you would choose to ensure the screen is easily readable for everyone.

[SKETCH YOUR SYSTEM DESIGN IN THIS WINDOW]

Draw your navigation bars, data rows, entry boxes, and design annotation notes here.

Task 3: Spotting Common Mistakes (Formula Auditing)

What is Formula Auditing? A vital skill in spreadsheet software management is looking closely at broken formula math lines and figuring out exactly why they are failing.

The Problem Study Matrix: A student built the ticket transaction tracker table below, but unfortunately, none of their formulas in Column D are working correctly.

Row ID	A (Ticket Type)	B (Quantity)	C (Price)	D (Formula Written by Student)
1	VIP Golden Pass	4	£150.00	A1 * B1
2	Standard Seated	2	£65.00	=B2 * C9
3	General Admission	5	£40.00	=SUM(B3:C3)

Review the table data closely and answer these troubleshooting questions in full sentences:

- Analyze Row 1:** Look closely at the formula written in cell **D1**. Why will the spreadsheet software simply display the text string "A1 * B1" on the screen instead of multiplying the numbers? What basic math symbol did the student forget to type at the very start?

- Analyze Row 2:** Look closely at cell **D2**. The student wants to calculate the complete total cost of the 2 Standard Seated tickets. They typed **=B2 * C9**. Explain why their cell reference target choice is wrong, and explain how it will break their final on-screen answer.

- Analyze Row 3:** Look closely at cell **D3**. The student wants to multiply the quantity (5) by the price (£40.00) to find the calculation value (£200.00). Explain why using the function word **=SUM** is the wrong choice in this situation. What does **=SUM** actually tell the computer to do, and how should the formula be rewritten correctly?

Answers Guide for Independent Checking

Use these answers to check your written responses for Part 2 once you have fully finished your questions. Take a green pen to tick or correct your work!

- **Answer for Row 1 Problem (Cell D1):** The formula is completely missing the mandatory **equals sign (=)** at the very beginning. Without an equals sign, the spreadsheet software treats the line like normal text writing instead of doing calculation work.

Corrected layout syntax: **=B2*C2**

- **Answer for Row 2 Problem (Cell D2):** The student pointed their formula to cell **C9**, but the ticket cost value is actually sitting in cell **C3** (or C2 in the alphabetized list). Because cell C9 is totally blank, the computer treats it as zero. Multiplying by zero leaves a broken final display of £0.00.

Corrected layout syntax: **=B3*C3** (or **=B2*C2** depending on sorting paths).

- **Answer for Row 3 Problem (Cell D3):** The student used the function word **=SUM**, which tells the computer to ****add**** values together rather than multiply them. If the software calculates their formula, it will add \$5 + 40\$ and output a wrong total of 45 instead of multiplying to find 200. They shouldn't use the word SUM at all here.

Corrected layout syntax: **=B4*C4** (or **=B5*C5** depending on sorting paths).