Summative assessment: Answers

## Introduction to spreadsheets

Q1. Which of these statements are true about spreadsheets? (Tick all that apply)

* **When using formulas with cell references, changing one cell can change another**
* Calculations can be used on any data type in a spreadsheet
* **Data can be calculated using different operations within the spreadsheet**
* **Charts can be produced using the data held in spreadsheets**

The first, third, and fourth statements are correct. The second statement suggests that learners do not recognise that certain data types cannot be used in calculations. For example, a word cannot be multiplied by a number in a spreadsheet.

Q2. Below is an example section of a spreadsheet. How much does one kiwi cost?

|  | **A** | **B** | **C** | **D** |
| --- | --- | --- | --- | --- |
| **1** | **Fruit** | **Cost** | **Number sold** | **Subtotal** |
| **2** | Apples | £0.40 | 4 | £1.60 |
| **3** | Bananas | £0.50 | 9 | £4.50 |
| **4** | Kiwi | £0.80 | 3 | £2.40 |
| **5** | Grapefruit | £1.00 | 1 | £1.00 |
| **6** |  |  | **Total income:** | **£9.50** |

1. £3
2. £9.50
3. **£0.80**
4. £2.40

The correct answer is C. Answers A and D suggest that learners are not using the headings to find the appropriate values. Answer B shows a misconception around the ‘total income’ not being just the value of a kiwi.

Q3. Using the same spreadsheet section as in question 2, which of the following is the correct cell reference for the subtotal of grapefruit?

1. **D5**
2. A5
3. £1.00
4. D1

The correct answer is A. Answers B and D suggests that learners have not used the data headings correctly in order to determine which column and row the cell reference will be found. Answer C suggests that learners have identified the correct cell, but have chosen the value in the cell, rather than the cell reference.

Q4. Using the same spreadsheet section as in question 2, which formula is the correct formula to calculate the subtotal for bananas?

1. =B3xC3
2. **=B3\*C3**
3. =C3\*D3
4. =C3xD3

The correct answer is B. Answers A and D suggest that learners have not recognised that x is processed as a letter by the computer and not a mathematical symbol. Answer C shows learners are confused about how formulas work in a spreadsheet, as you cannot use the containing cell within the formula.

Q5. What does this operator mean in a spreadsheet / ?

1. **Divide**
2. Multiply
3. Add
4. Subtract

The correct answer is A. Other answers suggest that learners do not recognise which mathematical operation is represented using /.

Q6. Which of these would make suitable column headings in a spreadsheet for a local supermarket? (Tick all that apply)

* **Cost**
* £4.62
* Apples
* **Item**

The correct answers are cost and item. The other two answers could be found in a spreadsheet for a local supermarket, but they would be the data in a spreadsheet, rather than a data heading. This shows that learners are unsure about the role of data headings in organising data.

Q7. Which number format has been applied to this piece of data?

*12:05:00*

1. Date
2. Italics
3. **Duration**
4. Currency

The correct answer is C. Choosing answers A or D suggests that learners do not understand which number formatting has been used here. Learners choosing B have misconceptions around the difference between number formatting and style formatting.

Q8. What does this SUM function calculate?

=SUM(A1:A4)

1. The total cost of items
2. **The total of A1, A2, A3, and A4**
3. The total of A1 and A4
4. A data heading

The correct answer is B. The SUM function adds together all cells in the range selected. Answer C suggests that learners have not recognised that the colon in a formula stands for a range instead of just calculating the total of two cells. Choosing answer D suggests a misunderstanding of data headings. While the data within the column may be calculated this way, the heading should include a descriptive title such as ‘Total’. Answer A suggests that learners are thinking about the purpose of the formula and not what it does.

Q9. The subtotal column in the spreadsheet section below has been calculated using a formula. Which cell could be changed to alter the value shown in D2?

|  | **A** | **B** | **C** | **D** |
| --- | --- | --- | --- | --- |
| **1** | **Journey** | **Petrol per mile** | **Miles** | **Subtotal** |
| **2** | To school | £1.00 | 8 | =B2\*C2 |
| **3** |  |  |  |  |

1. A2
2. **B2**
3. £8.00
4. D1

The correct answer is B as changing the value in either B2 or C2 will result in a different value from the calculation in D2. Answer A may suggest that learners are looking at cells that can easily be changed. Answer C suggests that learners are using the formula to calculate the value, but have not considered the role of cell references in this. Answer D suggests learners think changing the column heading will influence the data within the same column.

Q10. Some children want to show the head teacher how much cheaper the school heating bill is if the doors are left closed at playtime. Should they show their data in a spreadsheet table or a graph?

1. Spreadsheet table
2. **Graph**

Explain why you think this is the best way for the children to present their data to the head teacher.

I chose a graph because I wanted the head teacher to see really clearly the differences between when the doors were open and when they were closed at playtime. Showing a picture of the data makes it easier to explain what we found than a table of numbers.

Learners should be able to justify their reasoning for choosing a graph to present this data. Learners may use similar words to: picture, compare the two, clearly, ease of use.

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