Activity Overview

In this activity, you'll learn how to identify and fix common spreadsheet errors. You'll work with a pre-populated dataset containing errors, then apply methods to correct them. As a data professional, identifying and debugging errors is crucial for accurate data analysis.

Step-By-Step Instructions

Follow the instructions to complete each step of the activity. Then answer the question at the end of the activity before going to the next course item.

Step 1: Access the spreadsheet

To get started, determine which software you'd like to use to create your chart, such as Google Sheets or Microsoft Excel.

Save the spreadsheet with your preferred file naming convention, and store it in a folder to help you stay organized.

To use the template for this course item, click the link below and select "Use Template."

Link to template: Resolve spreadsheet errors spreadsheet

OR

If you don't have a Google account, download the template directly from the attachment below.

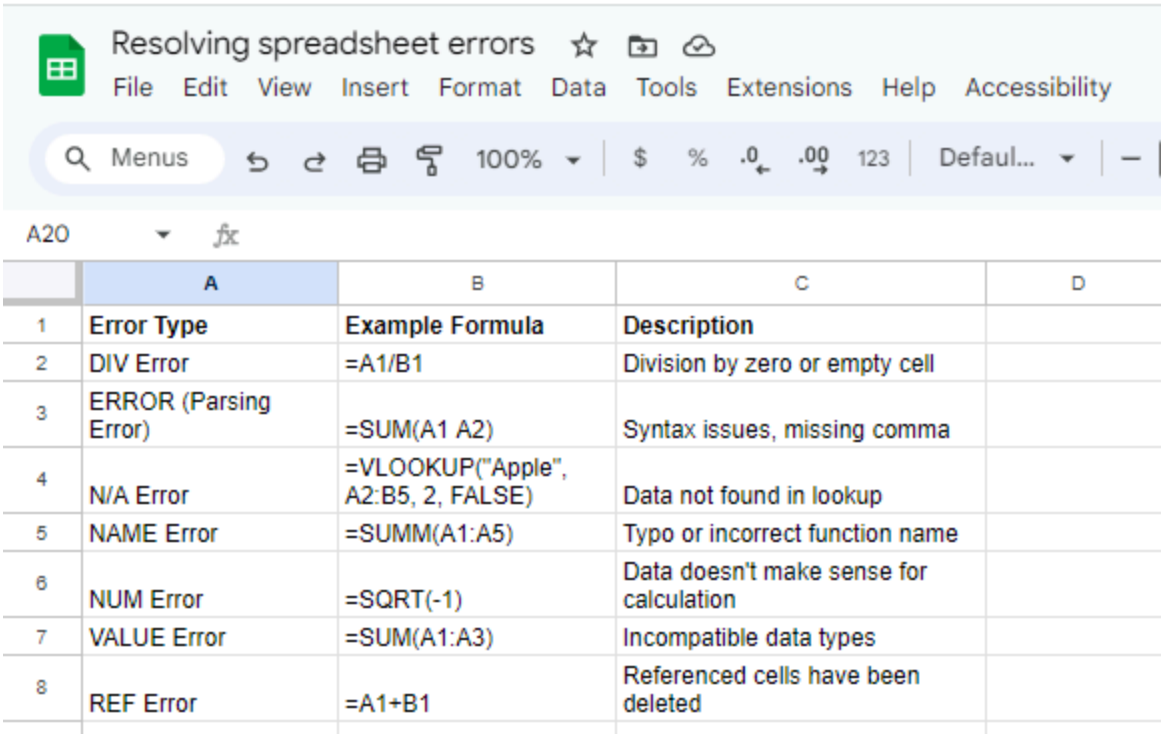
Resolve spreadsheet errors

XLSX File

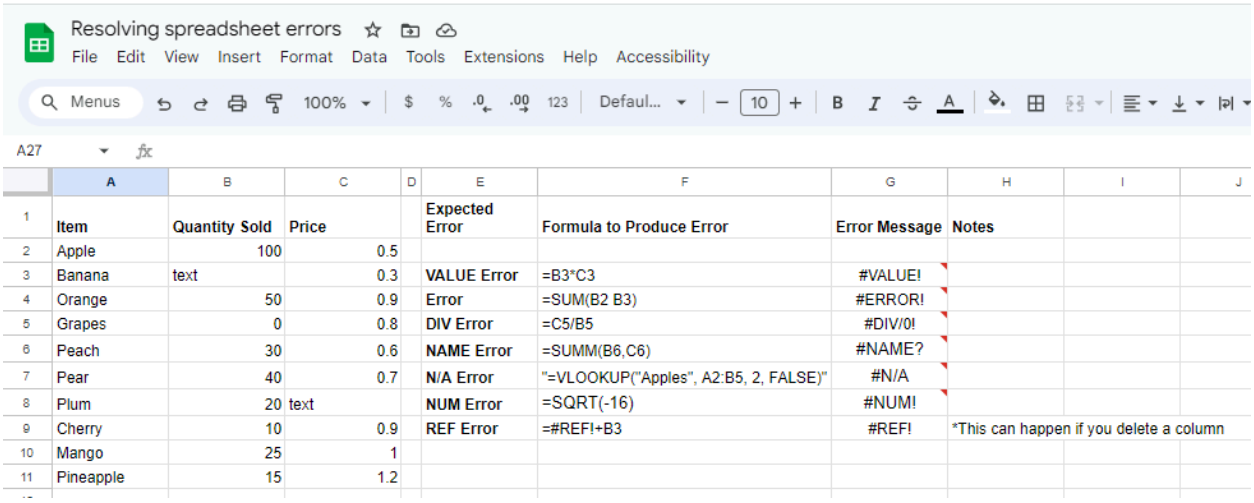
Step 2: Explore the spreadsheet

1. Open the Resolve spreadsheet errors spreadsheet.
2. Take a few minutes to explore the first two sheets, Descriptions and Examples, to learn more about common errors and to explore some examples.
3. At the end of the activity, feel free to explore the Solutions sheet to review an explanation of errors and their solutions directly in the sheet.

The following screenshot captures the Descriptions sheet that you will find when you open the Resolve spreadsheet errors sheet. It contains common error types, example formulas, and a description of each error.



	A	B	C	D
1	**Error Type**	**Example Formula**	**Description**	
2	DIV Error	=A1/B1	Division by zero or empty cell	
3	ERROR (Parsing Error)	=SUM(A1 A2)	Syntax issues, missing comma	
4	N/A Error	=VLOOKUP("Apple", A2:B5, 2, FALSE)	Data not found in lookup	
5	NAME Error	=SUMM(A1:A5)	Typo or incorrect function name	
6	NUM Error	=SQRT(-1)	Data doesn't make sense for calculation	
7	VALUE Error	=SUM(A1:A3)	Incompatible data types	
8	REF Error	=A1+B1	Referenced cells have been deleted	



	A	B	C	D	E	F	G	H	I	J
1	**Item**	**Quantity Sold**	**Price**		**Expected Error**	**Formula to Produce Error**	**Error Message**	**Notes**		
2	Apple	100	0.5							
3	Banana	text	0.3		**VALUE Error**	=B3*C3	#VALUE!			
4	Orange	50	0.9		**Error**	=SUM(B2 B3)	#ERROR!			
5	Grapes	0	0.8		**DIV Error**	=C5/B5	#DIV/0!			
6	Peach	30	0.6		**NAME Error**	=SUMM(B6,C6)	#NAME?			
7	Pear	40	0.7		**N/A Error**	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	#N/A			
8	Plum	20	text		**NUM Error**	=SQRT(-16)	#NUM!			
9	Cherry	10	0.9		**REF Error**	=#REF!+B3	#REF!	*This can happen if you delete a column		
10	Mango	25	1							
11	Pineapple	15	1.2							

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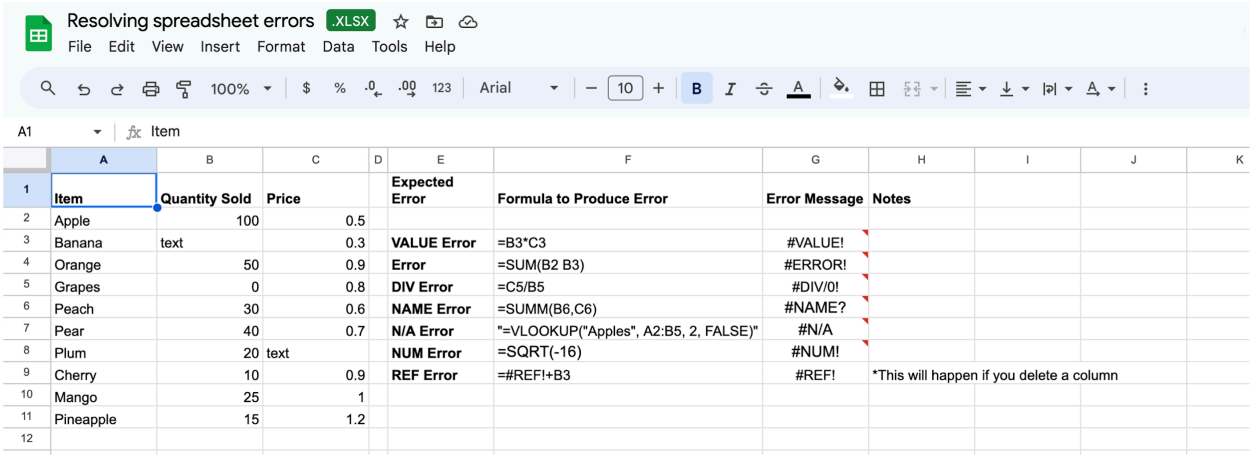
Step 3: Identify and resolve common errors

Error types and examples

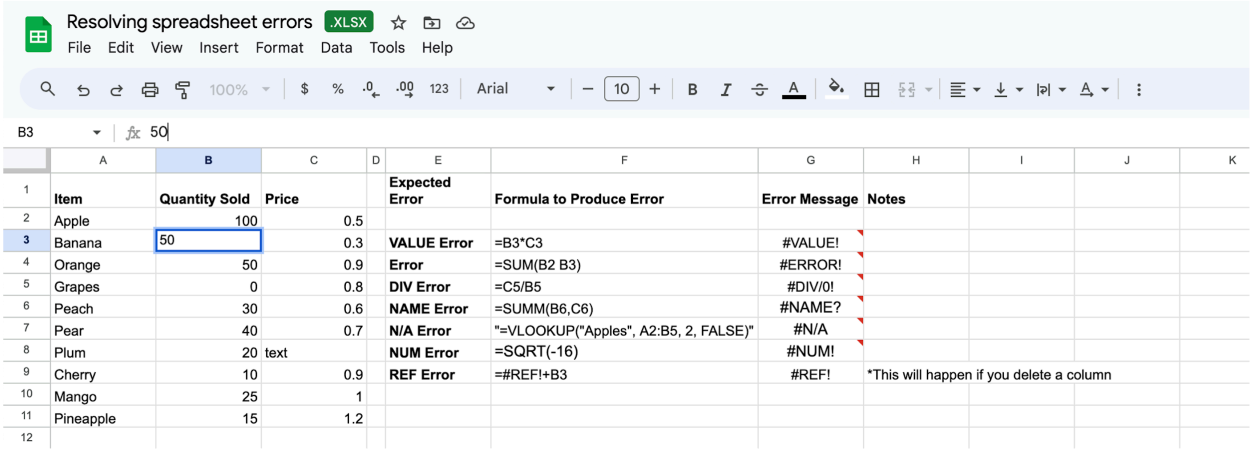
In the Resolve spreadsheet errors spreadsheet, select the Fix the Examples Here sheet.



	Item	Quantity Sold	Price		Expected Error	Formula to Produce Error	Error Message	Notes
2	Apple	100	0.5					
3	Banana	text	0.3		VALUE Error	=B3*C3	#VALUE!	
4	Orange	50	0.9		Error	=SUM(B2 B3)	#ERROR!	
5	Grapes	0	0.8		DIV Error	=C5/B5	#DIV/0!	
6	Peach	30	0.6		NAME Error	=SUMM(B6,C6)	#NAME?	
7	Pear	40	0.7		N/A Error	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	#N/A	
8	Plum	20	text		NUM Error	=SQRT(-16)	#NUM!	
9	Cherry	10	0.9		REF Error	=#REF!+B3	#REF!	*This will happen if you delete a column
10	Mango	25	1					
11	Pineapple	15	1.2					
12								

VALUE error: The VALUE error indicates a problem with the formula or cells that it references, often due to incompatible data types. Resolve that now by following these steps:

1. Locate the reference cell that contains the #VALUE! error message.
2. Select the cell with the VALUE error.
3. Check the formula in cell G3 and identify where incompatible data types are being used. The formula bar shows the expression `=B3*C3`. When you check cells B3 and B4, you'll notice that cell B3 contains the word text instead of a value.
4. You'll need to adjust the formula or ensure that the referenced cells contain compatible data. In this case, enter a value into cell B3. In cell B3, enter 50 and press Enter.



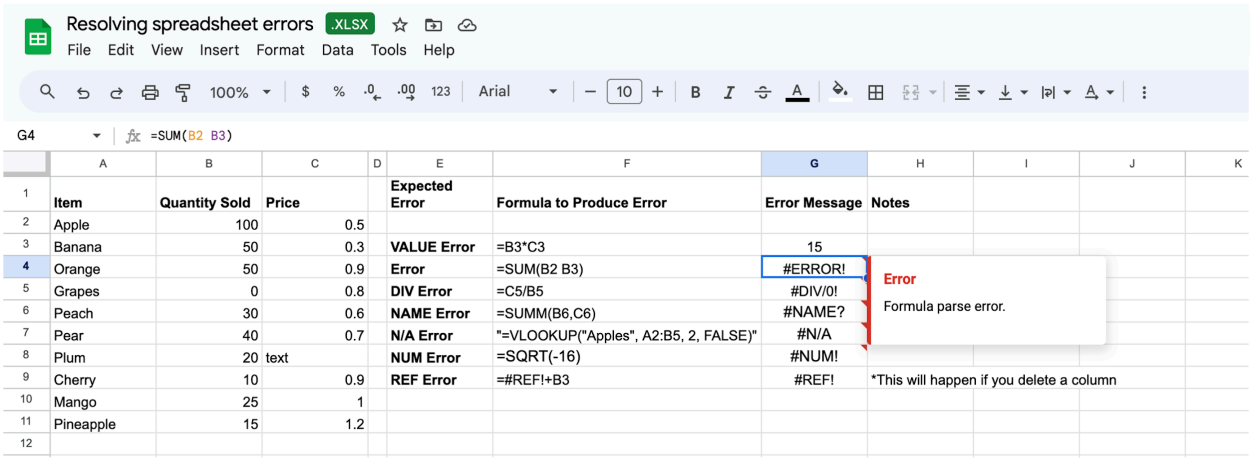
	Item	Quantity Sold	Price		Expected Error	Formula to Produce Error	Error Message	Notes
2	Apple	100	0.5					
3	Banana	50	0.3		VALUE Error	=B3*C3	#VALUE!	
4	Orange	50	0.9		Error	=SUM(B2 B3)	#ERROR!	
5	Grapes	0	0.8		DIV Error	=C5/B5	#DIV/0!	
6	Peach	30	0.6		NAME Error	=SUMM(B6,C6)	#NAME?	
7	Pear	40	0.7		N/A Error	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	#N/A	
8	Plum	20	text		NUM Error	=SQRT(-16)	#NUM!	
9	Cherry	10	0.9		REF Error	=#REF!+B3	#REF!	*This will happen if you delete a column
10	Mango	25	1					
11	Pineapple	15	1.2					
12								

5. Cell G3 now shows the number 15 instead of the VALUE error, enabling the formula to run successfully.

ERROR (parsing error): The parsing error occurs when a spreadsheet can't interpret the formula as it is input, often due to syntax issues. Remedy that now:

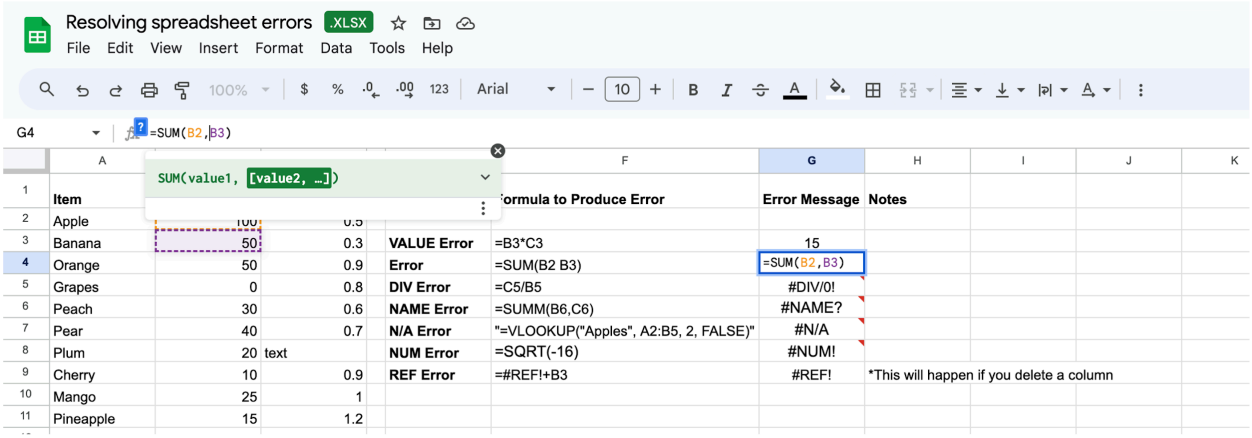
1. Locate the reference cell that contains the #ERROR! error message.
2. Select the cell with the ERROR error.

3. Select cell G4 and check the formula for syntax errors. Common errors are missing operators or commas.
4. The expression in the formula bar shows that the SUM function being performed is missing a comma.



	A	B	C	D	E	F	G	H	I	J	K
1	Item	Quantity Sold	Price		Expected Error	Formula to Produce Error	Error Message	Notes			
2	Apple	100	0.5								
3	Banana	50	0.3		VALUE Error	=B3*C3	15				
4	Orange	50	0.9		Error	=SUM(B2 B3)	#ERROR!				
5	Grapes	0	0.8		DIV Error	=C5/B5	#DIV/0!				
6	Peach	30	0.6		NAME Error	=SUMM(B6,C6)	#NAME?				
7	Pear	40	0.7		N/A Error	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	#N/A				
8	Plum	20	text		NUM Error	=SQRT(-16)	#NUM!				
9	Cherry	10	0.9		REF Error	=#REF!+B3	#REF!	*This will happen if you delete a column			
10	Mango	25	1								
11	Pineapple	15	1.2								
12											

5. In the formula bar, delete the space between B2 and B3 and enter a comma (,), then press Enter.

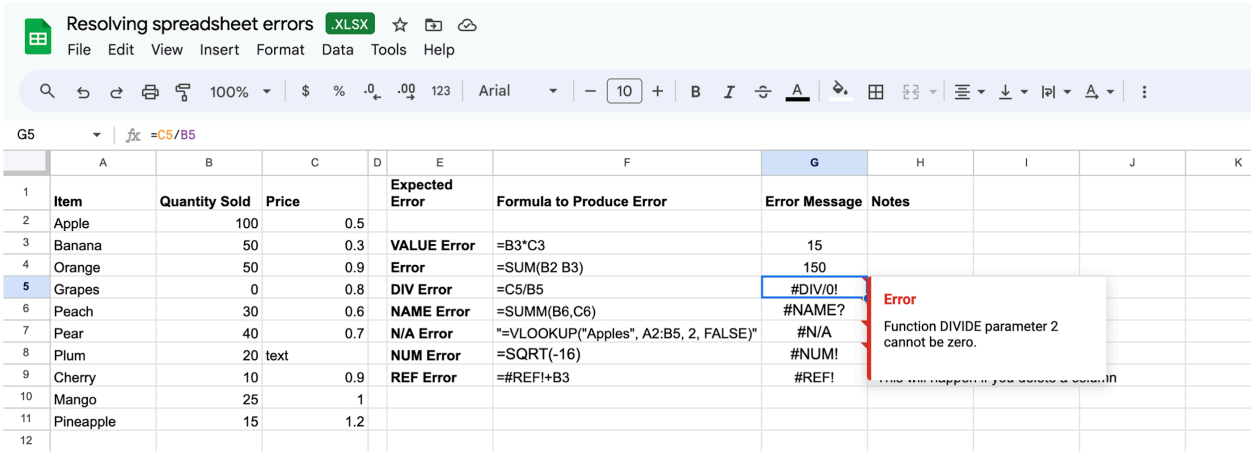


	A	B	C	D	E	F	G	H	I	J	K
1	Item					ormula to Produce Error	Error Message	Notes			
2	Apple	100	0.5								
3	Banana	50	0.3		VALUE Error	=B3*C3	15				
4	Orange	50	0.9		Error	=SUM(B2 B3)	=SUM(B2,B3)				
5	Grapes	0	0.8		DIV Error	=C5/B5	#DIV/0!				
6	Peach	30	0.6		NAME Error	=SUMM(B6,C6)	#NAME?				
7	Pear	40	0.7		N/A Error	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	#N/A				
8	Plum	20	text		NUM Error	=SQRT(-16)	#NUM!				
9	Cherry	10	0.9		REF Error	=#REF!+B3	#REF!	*This will happen if you delete a column			
10	Mango	25	1								
11	Pineapple	15	1.2								

6. Cell G4 now shows the value 150 instead of the error message, fixing the problem.

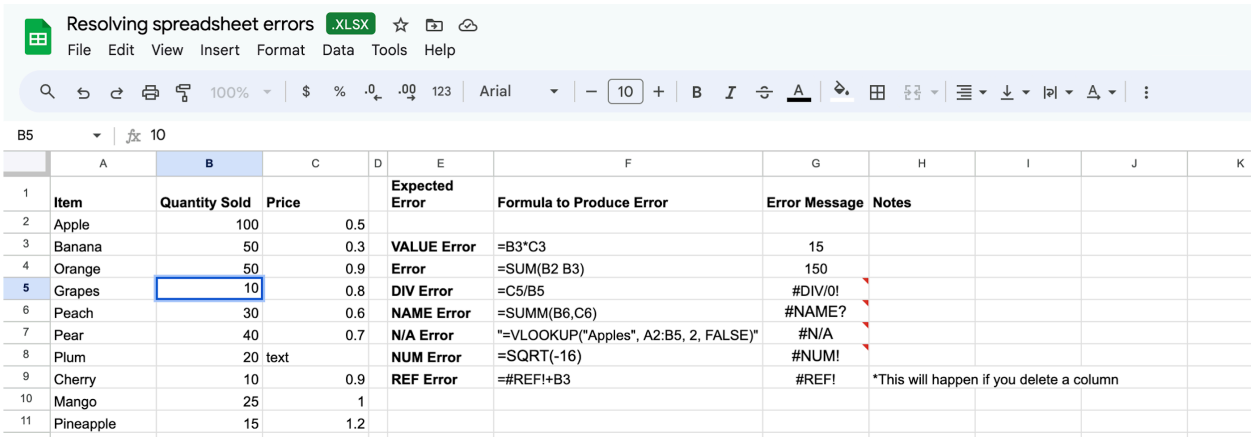
DIV error: The DIV error occurs when you try to divide a number by zero or an empty cell. Solve this problem with these steps:

1. Locate the reference cell that contains the #DIV/0! error message.
2. Select the cell with the DIV error.
3. Check the formula in cell G5 to identify where the division by zero is occurring.



	Item	Quantity Sold	Price		Expected Error	Formula to Produce Error	Error Message	Notes
2	Apple	100	0.5					
3	Banana	50	0.3		VALUE Error	=B3*C3	15	
4	Orange	50	0.9		Error	=SUM(B2 B3)	150	
5	Grapes	0	0.8		DIV Error	=C5/B5	#DIV/0!	
6	Peach	30	0.6		NAME Error	=SUMM(B6,C6)	#NAME?	
7	Pear	40	0.7		N/A Error	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	#N/A	
8	Plum	20	text		NUM Error	=SQRT(-16)	#NUM!	
9	Cherry	10	0.9		REF Error	=#REF!+B3	#REF!	
10	Mango	25	1					
11	Pineapple	15	1.2					
12								

4. The expression in the formula bar shows that C5 is being divided by cell B5, meaning that B5 contains the value 0.
5. Modify the formula to avoid dividing by zero. Select cell B5 and enter 10, then press Enter.

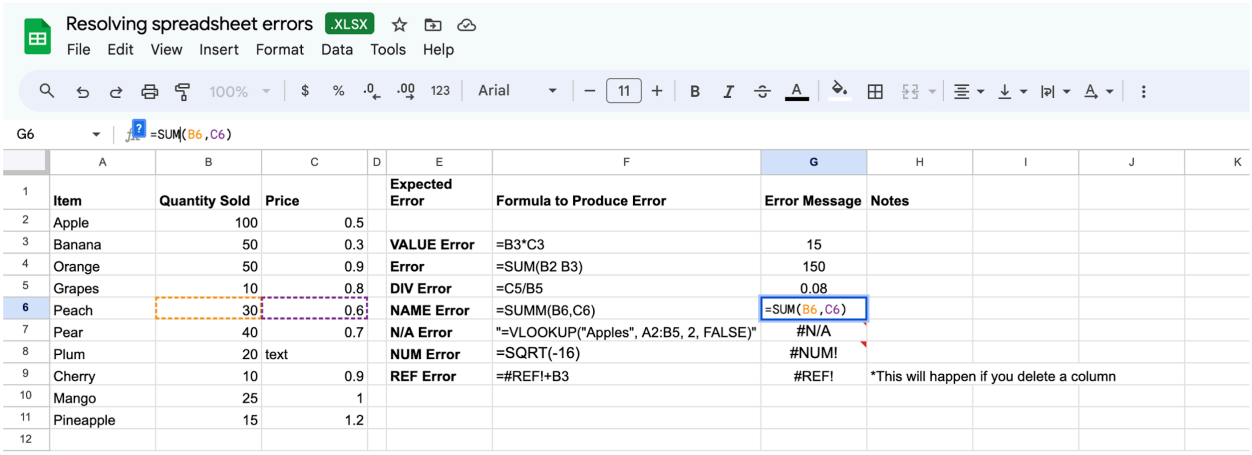


	Item	Quantity Sold	Price		Expected Error	Formula to Produce Error	Error Message	Notes
2	Apple	100	0.5					
3	Banana	50	0.3		VALUE Error	=B3*C3	15	
4	Orange	50	0.9		Error	=SUM(B2 B3)	150	
5	Grapes	10	0.8		DIV Error	=C5/B5	#DIV/0!	
6	Peach	30	0.6		NAME Error	=SUMM(B6,C6)	#NAME?	
7	Pear	40	0.7		N/A Error	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	#N/A	
8	Plum	20	text		NUM Error	=SQRT(-16)	#NUM!	
9	Cherry	10	0.9		REF Error	=#REF!+B3	#REF!	*This will happen if you delete a column
10	Mango	25	1					
11	Pineapple	15	1.2					

6. Cell G4 now shows the value 0.08 instead of the parsing error. Another error fixed!

NAME error: The NAME error occurs when the formula's name isn't recognized, usually due to a typo or incorrect function name.

1. Locate the reference cell that contains the #NAME? error message.
2. Select the cell with the NAME error.
3. Select cell G6 and inspect the formula for any typographical errors or incorrect function names.
4. Delete the extra M in SUMM and press Enter to fix the typo in the formula bar. This is a toolbar that shows information contained in a cell.

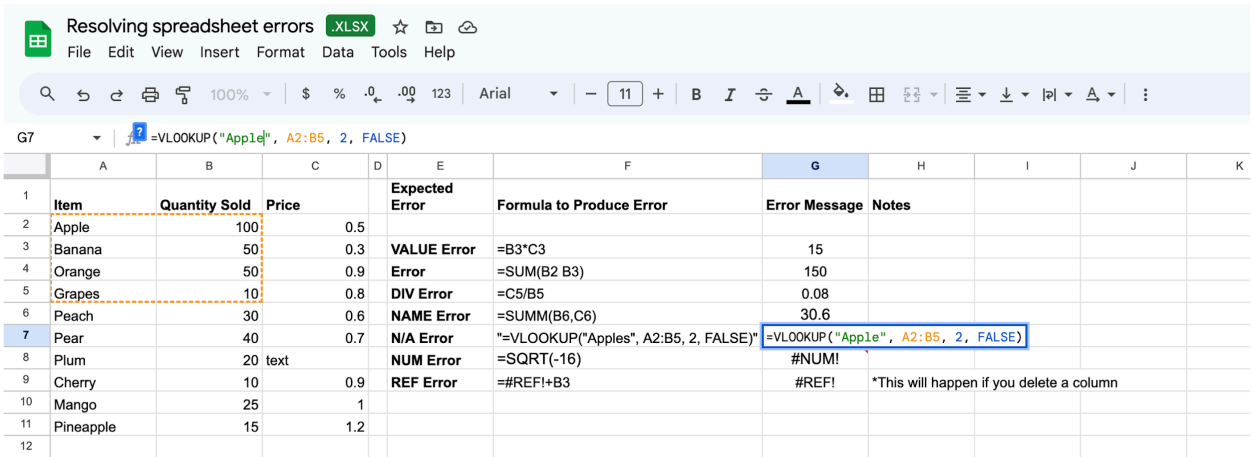


	A	B	C	D	E	F	G	H	I	J	K
1	**Item**	**Quantity Sold**	**Price**		**Expected Error**	**Formula to Produce Error**	**Error Message**	**Notes**			
2	Apple	100	0.5								
3	Banana	50	0.3		**VALUE Error**	=B3*C3	15				
4	Orange	50	0.9		**Error**	=SUM(B2 B3)	150				
5	Grapes	10	0.8		**DIV Error**	=C5/B5	0.08				
6	Peach	30	0.6		**NAME Error**	=SUMM(B6,C6)	=SUM(B6,C6)				
7	Pear	40	0.7		**N/A Error**	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	#N/A				
8	Plum	20	text		**NUM Error**	=SQRT(-16)	#NUM!				
9	Cherry	10	0.9		**REF Error**	=#REF!+B3	#REF!	*This will happen if you delete a column			
10	Mango	25	1								
11	Pineapple	15	1.2								
12											

5. Cell G6 now shows the value 30.6 instead of the NAME error, addressing the common spreadsheet error.

N/A error: The N/A error appears when the data referenced in your formula can't be found by the spreadsheet, often in lookup functions like **VLOOKUP**.

1. Locate the reference cell that contains the #N/A error message.
2. Select the cell with the N/A error.
3. Select cell G7 and check the formula in that cell. Ensure the data being looked up exists in the specified range. The formula bar shows that "Apples" is being searched in the dataset, but "Apples" doesn't exist in column A. In the formula bar, delete the s so it matches the title Apple shown in cell A2. Press Enter.

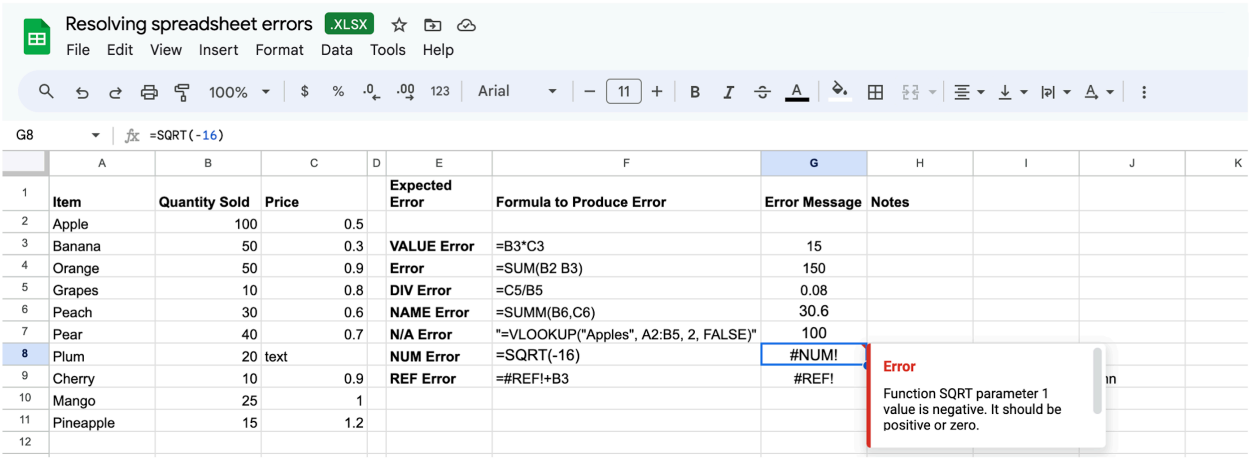


	A	B	C	D	E	F	G	H	I	J	K
1	**Item**	**Quantity Sold**	**Price**		**Expected Error**	**Formula to Produce Error**	**Error Message**	**Notes**			
2	Apple	100	0.5								
3	Banana	50	0.3		**VALUE Error**	=B3*C3	15				
4	Orange	50	0.9		**Error**	=SUM(B2 B3)	150				
5	Grapes	10	0.8		**DIV Error**	=C5/B5	0.08				
6	Peach	30	0.6		**NAME Error**	=SUMM(B6,C6)	30.6				
7	Pear	40	0.7		**N/A Error**	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	=VLOOKUP("Apple", A2:B5, 2, FALSE)				
8	Plum	20	text		**NUM Error**	=SQRT(-16)	#NUM!				
9	Cherry	10	0.9		**REF Error**	=#REF!+B3	#REF!	*This will happen if you delete a column			
10	Mango	25	1								
11	Pineapple	15	1.2								
12											

4. Cell G7 now shows the value 100 instead of the N/A error. Great work!

NUM error: The NUM error indicates that the formula's calculation can't be performed as specified, often because the data doesn't make sense for that calculation.

1. Locate the reference cell that contains the #NUM error message.
2. Select the cell with the NUM error.
3. Check the formula and identify why the calculation is not feasible.



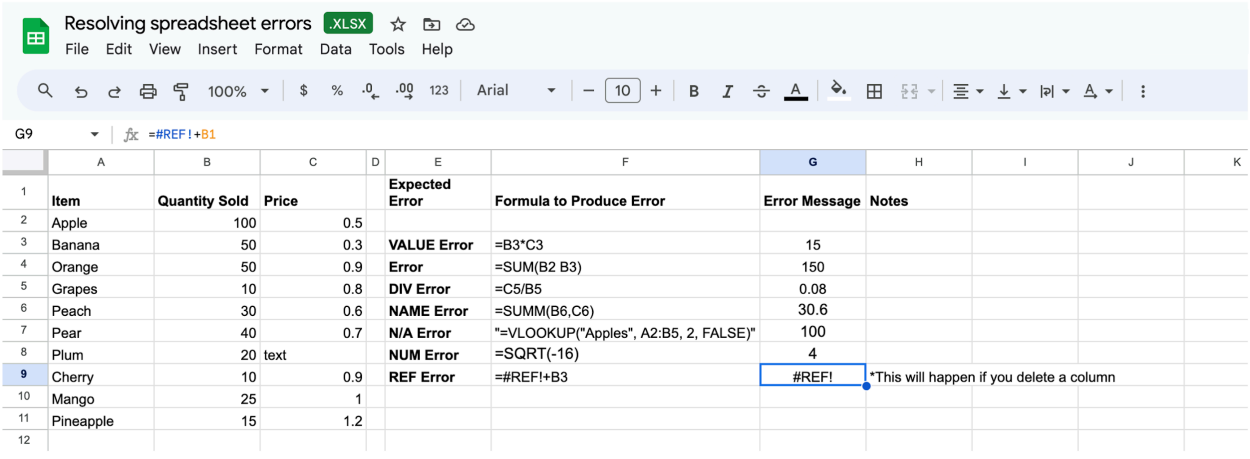
	A	B	C	D	E	F	G	H	I	J	K
1	**Item**	**Quantity Sold**	**Price**		**Expected Error**	**Formula to Produce Error**	**Error Message**	**Notes**			
2	Apple	100	0.5								
3	Banana	50	0.3		**VALUE Error**	=B3*C3	15				
4	Orange	50	0.9		**Error**	=SUM(B2 B3)	150				
5	Grapes	10	0.8		**DIV Error**	=C5/B5	0.08				
6	Peach	30	0.6		**NAME Error**	=SUMM(B6,C6)	30.6				
7	Pear	40	0.7		**N/A Error**	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	100				
8	Plum	20	text		**NUM Error**	=SQRT(-16)	#NUM!				
9	Cherry	10	0.9		**REF Error**	=#REF!+B3	#REF!				
10	Mango	25	1								
11	Pineapple	15	1.2								
12											

4. The spreadsheet can't take the square root of a negative number. (See note.) So, in the formula bar, delete the - (minus) and press Enter.
5. Cell G8 now shows the value 4 instead of the NUM error, solving yet another error!

Note: In mathematics, it's possible to take the square root of a negative number, as the result is not a real number; it's considered imaginary. That's beyond the scope of this course, but just know that spreadsheet applications will provide NUM errors when certain mathematical conditions are met.

REF error: The REF error occurs when cells being referenced in a formula have been deleted, making the formula unable to perform the calculation.

1. Locate the reference cell that contains the #REF! error message.
2. Select the cell with the REF error.
3. Select cell G9 and check the formula to find out which reference cells have been deleted or modified.



	A	B	C	D	E	F	G	H	I	J	K
1	**Item**	**Quantity Sold**	**Price**		**Expected Error**	**Formula to Produce Error**	**Error Message**	**Notes**			
2	Apple	100	0.5								
3	Banana	50	0.3		**VALUE Error**	=B3*C3	15				
4	Orange	50	0.9		**Error**	=SUM(B2 B3)	150				
5	Grapes	10	0.8		**DIV Error**	=C5/B5	0.08				
6	Peach	30	0.6		**NAME Error**	=SUMM(B6,C6)	30.6				
7	Pear	40	0.7		**N/A Error**	"=VLOOKUP("Apples", A2:B5, 2, FALSE)"	100				
8	Plum	20	text		**NUM Error**	=SQRT(-16)	4				
9	Cherry	10	0.9		**REF Error**	=#REF!+B3	#REF!	*This will happen if you delete a column			
10	Mango	25	1								
11	Pineapple	15	1.2								
12											

4. In this case, update the reference cells by deleting the expression in the formula bar and typing **=B2+B3**, then press Enter.
5. The value in cell G9 now shows 150—no more REF error!

Note: When you have a cell or column referenced, then delete the column, sometimes you'll receive the #REF! error. Making sure the cells in your functions are correct is crucial for a data analyst, as modifications to spreadsheets can make your calculations produce errors or become incorrect.

Reflection

Question 1

Reflection

In this exercise, you resolved common spreadsheet errors. Now, take a few minutes to reflect on this activity.

- What was the most challenging error you encountered, and how did you successfully resolve it?
- How does error resolution contribute to data accuracy? Why is this so important to data analysis and the reliability of results?
- How do you plan to apply the error identification and resolution skills you've gained in this activity to your future data analysis projects?

In the space provided below, write 2-3 sentences (40-60 words) to respond to each of these questions and your experience resolving errors.