Introduction

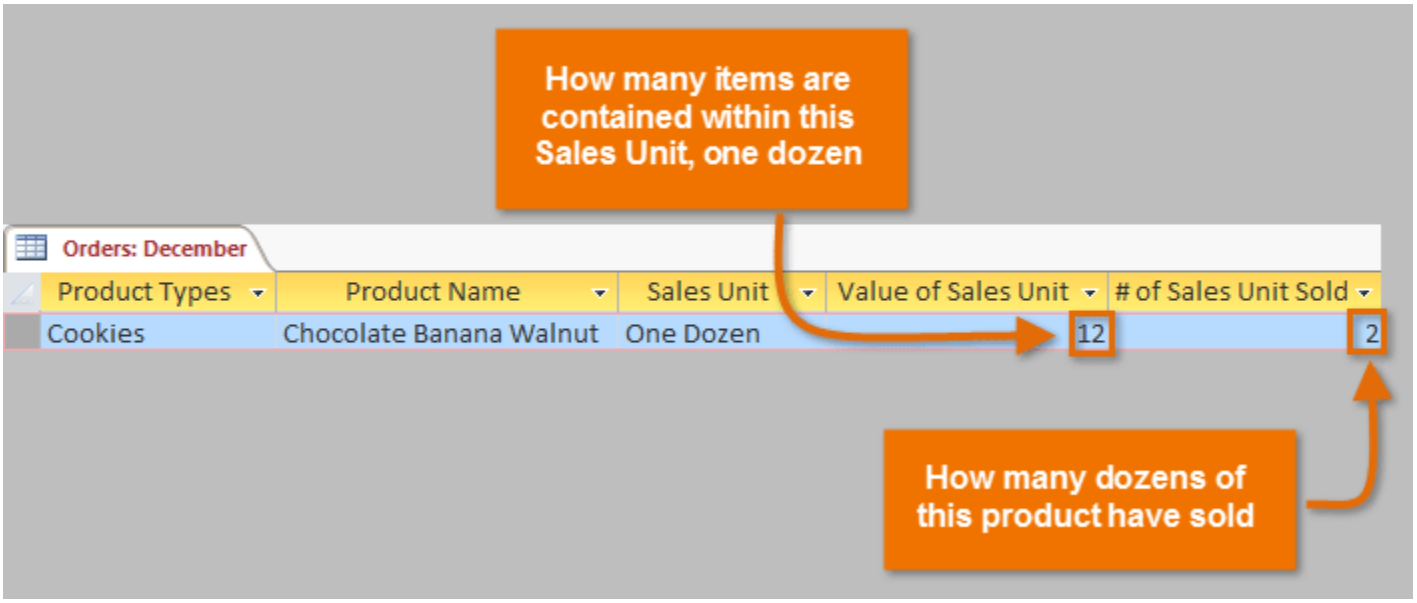
Calculated fields and **totals rows** let you perform calculations with the data in your tables. Calculated fields perform calculations using data within one record, while totals rows perform a calculation on an entire field of data.

Calculated fields

When you create a **calculated field**, you are adding a new field in which every row contains a calculation involving other numerical fields in that row. To do this, you must enter a **mathematical expression**, which is made up of **field names in your table** and **mathematical symbols**. You don't need to know too much about math or expression building to create a useful calculated field. In fact, you can write robust expressions using only grade-school math. For instance, you could:

- Use **+** to find the **sum** of the contents of two fields or to add a constant value (such as **+ 2** or **+ 5**) to a field
- Use ***** to **multiply** the contents of two fields or to multiply fields by a constant value
- Use **-** to **subtract** one field from other or to subtract a constant value from a field

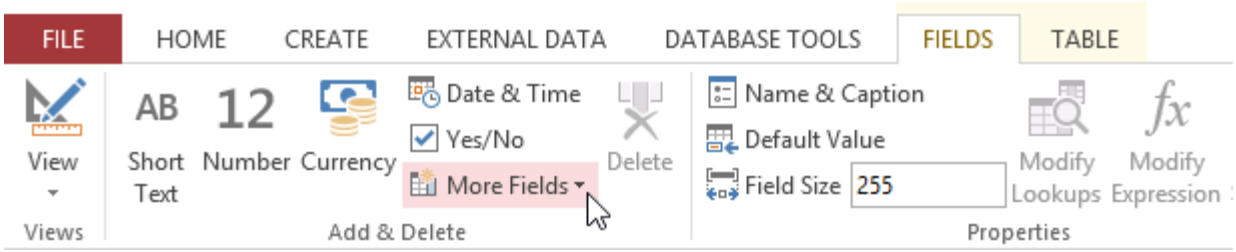
In our example, we will use a table containing the orders from one month. The table contains items listed by **sales unit**—single, half-dozen, dozen. One column lets us know the **number sold** of each sales unit. Another lets us know the actual **numerical value** of each of these units. For instance, in the top row you can see that **two dozen** fudge brownies have been sold and that one dozen equals **12** brownies.



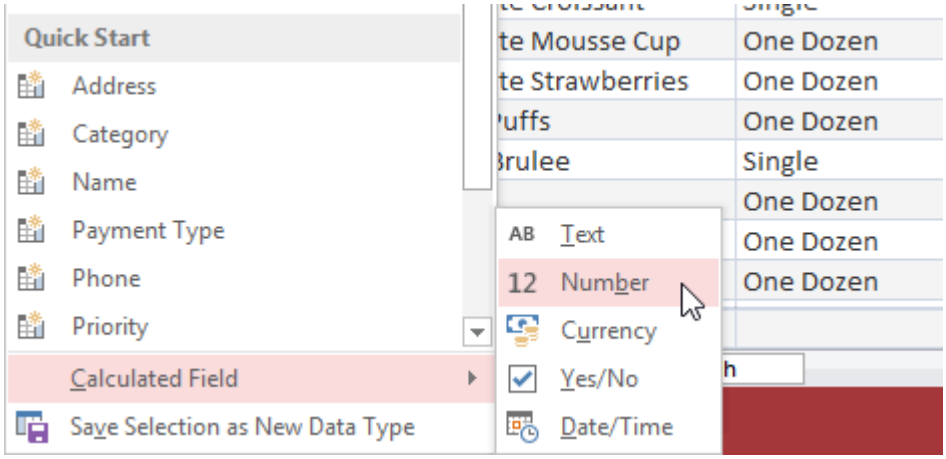
To find the **total number** of brownies that have been sold, we'll have to multiply the number of units sold by the numerical value of that unit—here, 2*12, which equals 24. This was a simple problem, but performing that calculation for each row of the table would be tedious and time consuming. Instead, we can create a calculated field that shows the product of these two fields multiplied together on every row.

To create a calculated field:

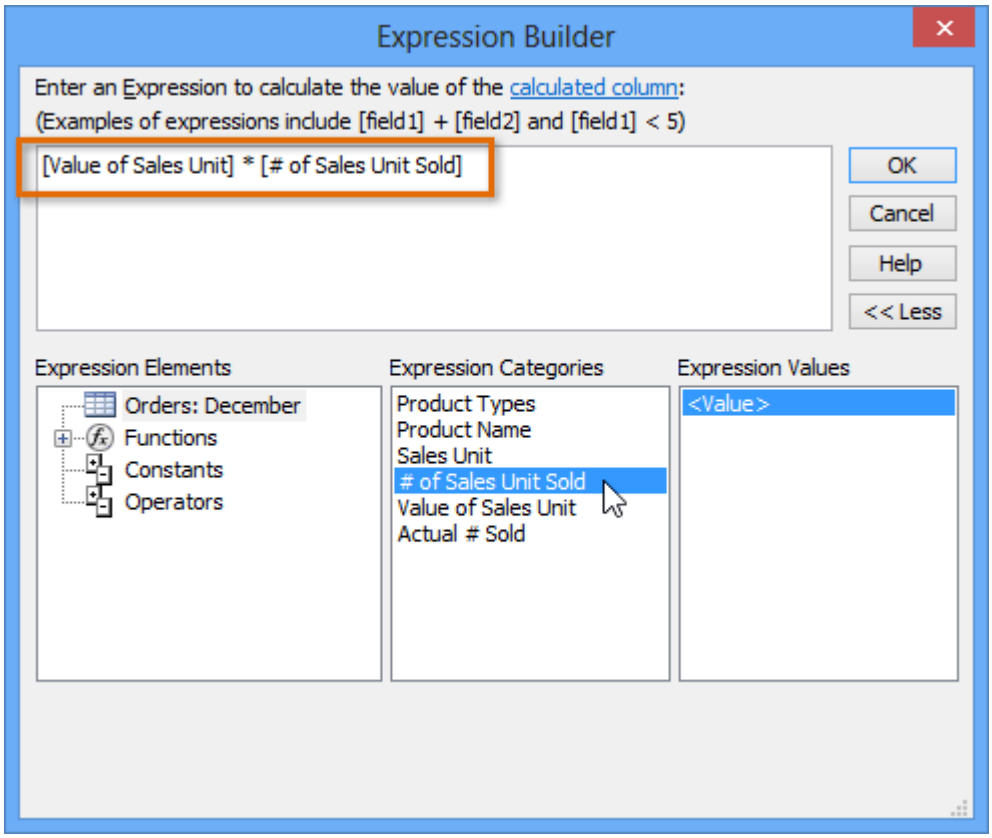
1. Select the **Fields** tab, locate the **Add & Delete** group, and click the **More Fields** drop-down command.



2. Hover your mouse over **Calculated Field** and select the desired data type. We want our calculation to be a number, so we'll select **Number**.



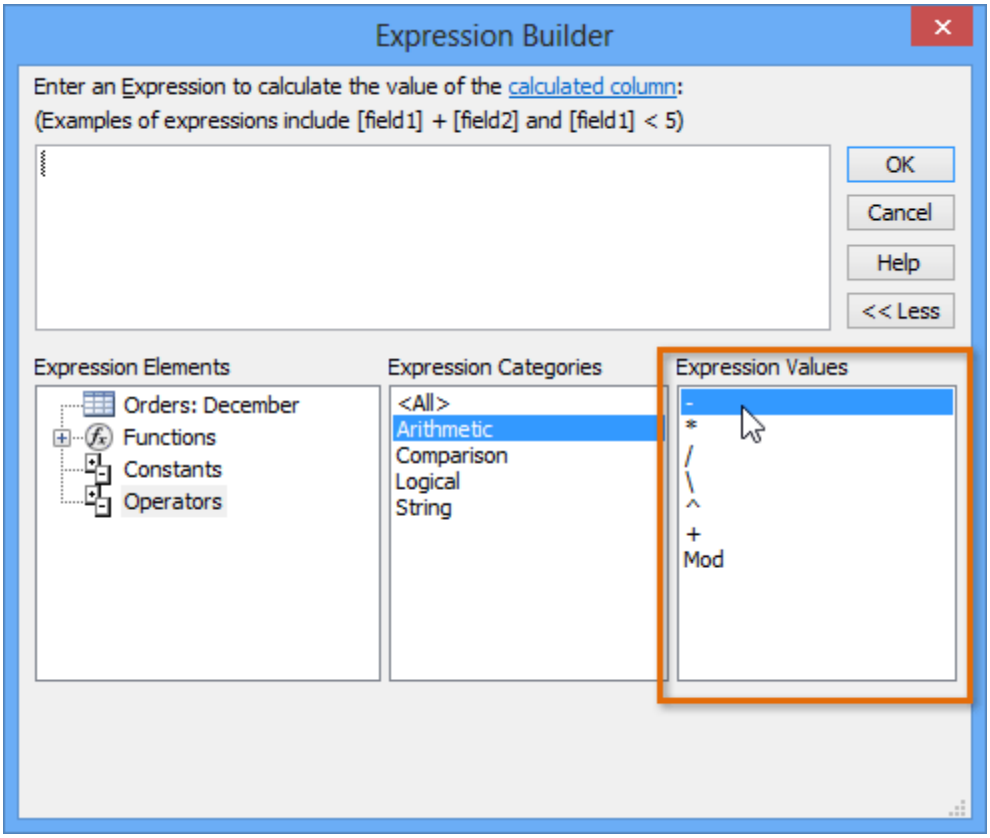
3. Build your expression. To select fields to include in your expression, double-click the field in the **Expression Categories** box. Remember to include mathematical operators like the + or - signs. Because we want to **multiply**our two fields, we'll put the multiplication symbol (*) between them.



4. Click **OK**. The calculated field will be added to your table. If you want, you can now sort or filter it.

Sales Unit	Value of Sales Unit	# of Sales Unit Sold	Actual # Sold
One Dozen	12	2	24
Single	1	4	4
Single	1	5	5
Single	1	3	3
Single	1	8	8
Single	1	5	5
One Dozen	12	1	12
Single	1	12	12
One Dozen	12	1	12
Single	1	1	1
Single	1	3	3
One Dozen	12	3	36
One Dozen	12	6	72
One Dozen	12	1	12
Single	1	8	8
Single	1	18	18
One Dozen	12	3	36

For more examples of mathematical expressions that can be used to create calculated fields, review the **Arithmetic Expressions** in the **Expression Builder** dialog box.



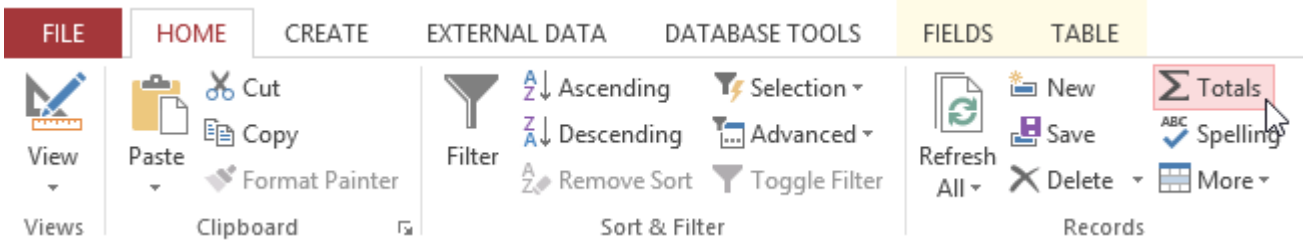
Totals rows

The **totals row** adds up an entire column of numbers, just like in a ledger or on a receipt. The resulting sum appears in a special row at the bottom of your table.

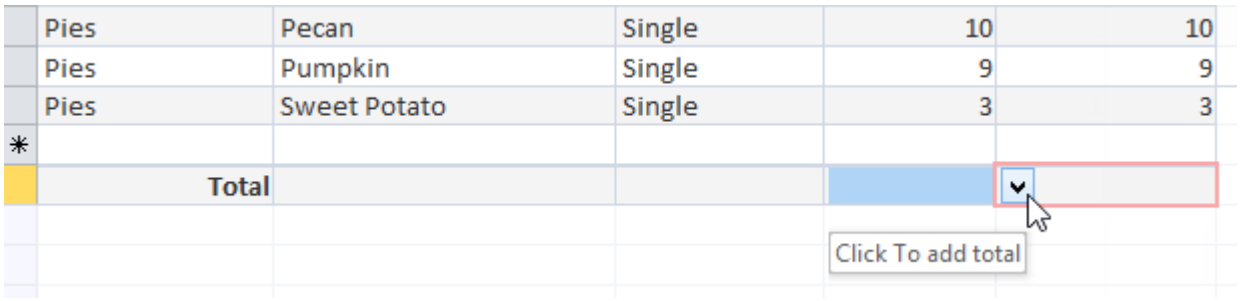
For our example, we'll add a totals row to our calculated field. This will show us the total number of items sold.

To create a totals row:

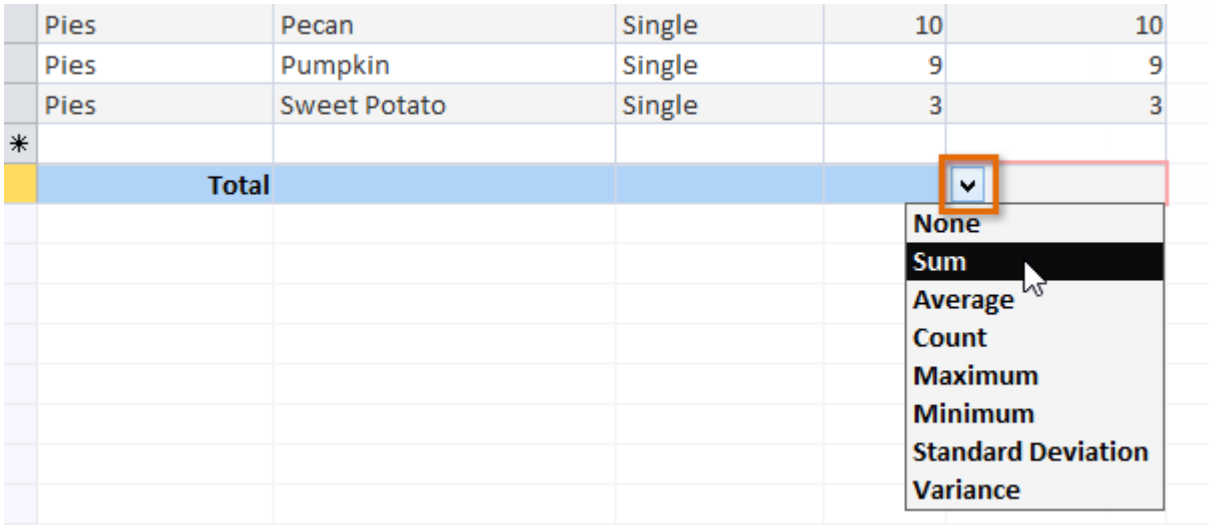
1. From the **Home** tab, locate the **Records** group, then click the **Totals**command.



2. Scroll down to the **last row** of your table.
3. Locate the desired field for the totals row, then select the **second empty cell** below the last record for that field. When a **drop-down arrow** appears, click it.



4. Select the function you want to perform on the field data. In our example, we'll choose **Sum** to add all of the values in the calculated field.



5. The totals row will appear.