How do I calculate a weighted average in a pivot table in Excel?

Authored by

stats writer

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A weighted average is a type of average that takes into account the relative importance of each value in a set of data. In a pivot table in Excel, you can calculate a weighted average by using the "Value Field Settings" function. This allows you to assign weights to each value and then calculate the average based on those weights. By adding a weighted average calculation to your pivot table, you can better analyze and interpret your data, taking into consideration the varying importance of different values. This can be particularly useful when dealing with financial data or other types of data where certain values may carry more significance.

Excel: Calculate a Weighted Average in Pivot Table

The following step-by-step example shows how to calculate a weighted average within a pivot table in Excel.

Step 1: Enter the Data

First, let's enter the following dataset that contains information about basketball players on two different teams:

	A	B	C	D	E
1	**Team**	**Player**	**Avg Points**	**Games**	
2	A	Andy	22	3	
3	A	Bob	20	4	
4	A	Chad	15	4	
5	A	Derrick	13	5	
6	B	Eric	27	4	
7	B	Frank	30	3	
8	B	George	15	3	
9	B	Harold	8	2	
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Step 2: Create Helper Column

Suppose we would like to create a pivot table that summarizes the sum of games for each team along with the average points scored per player on each team.

To calculate the average points scored per player, we will need to use a weighted average that takes into account the average points along with the total games.

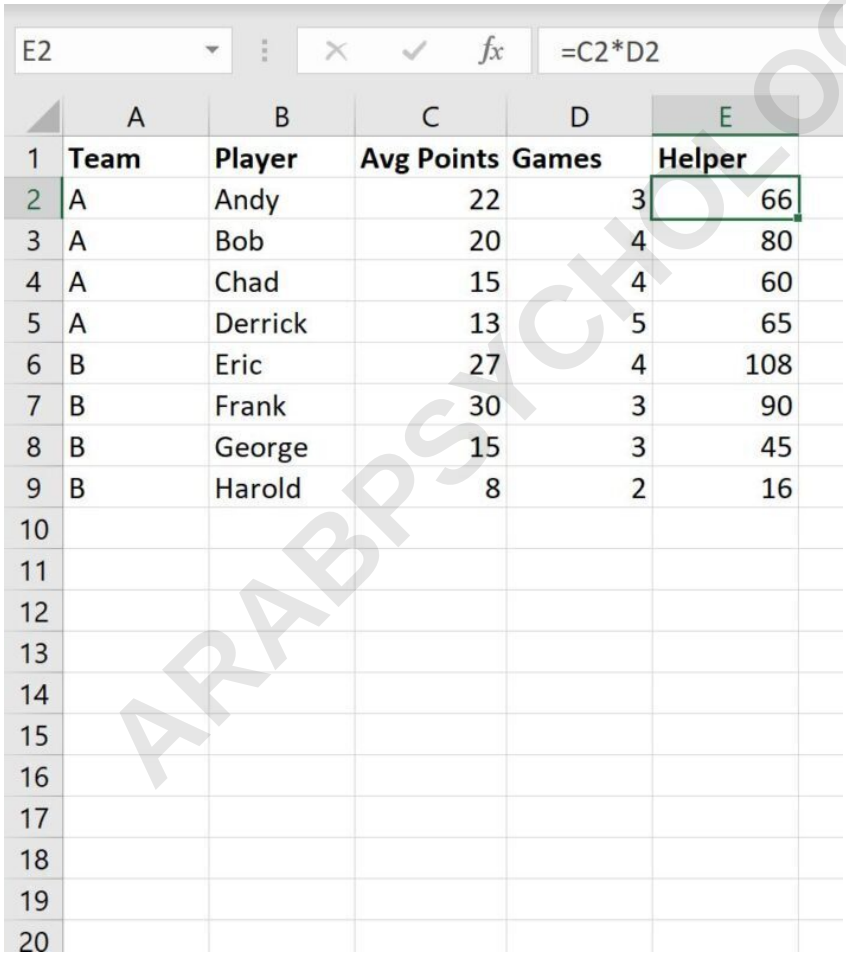
Since pivot tables in Excel don't allow you to calculate weighted averages, we will need to first create a helper

column in our original dataset.

We can type the following formula into cell E2:

=C2*D2

We can then drag and fill this formula down to the remaining cells in column E:



	A	B	C	D	E
1	**Team**	**Player**	**Avg Points**	**Games**	**Helper**
2	A	Andy	22	3	66
3	A	Bob	20	4	80
4	A	Chad	15	4	60
5	A	Derrick	13	5	65
6	B	Eric	27	4	108
7	B	Frank	30	3	90
8	B	George	15	3	45
9	B	Harold	8	2	16
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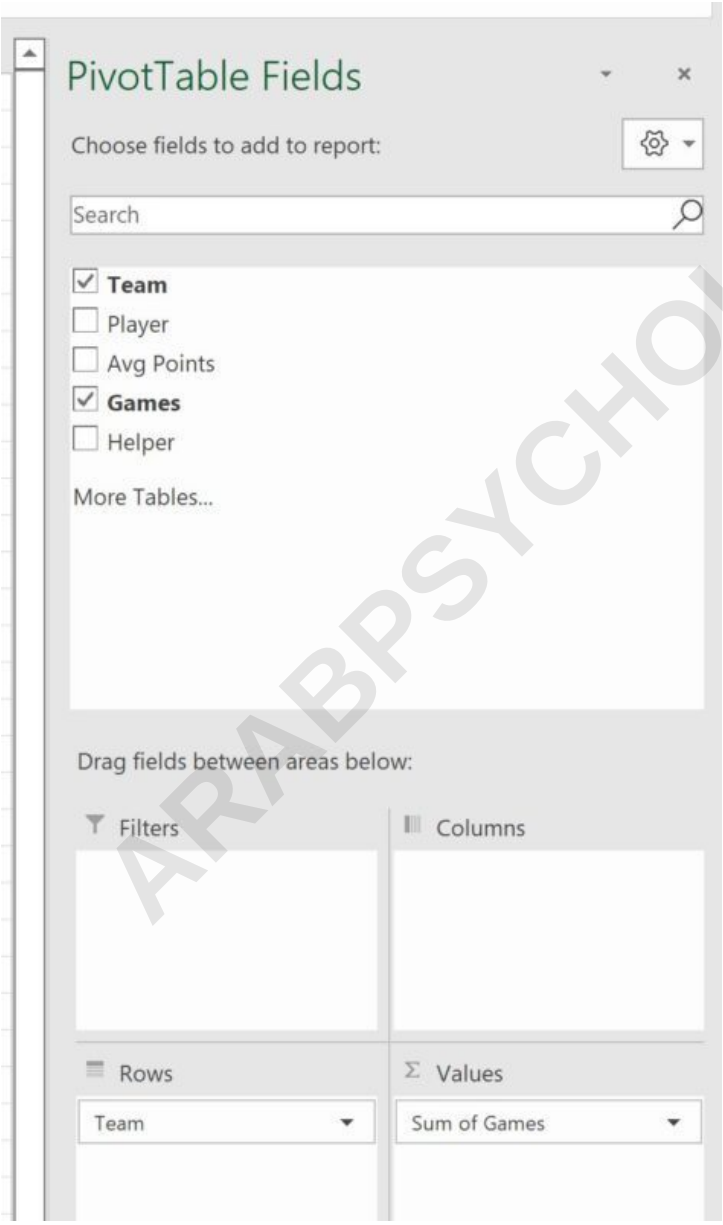
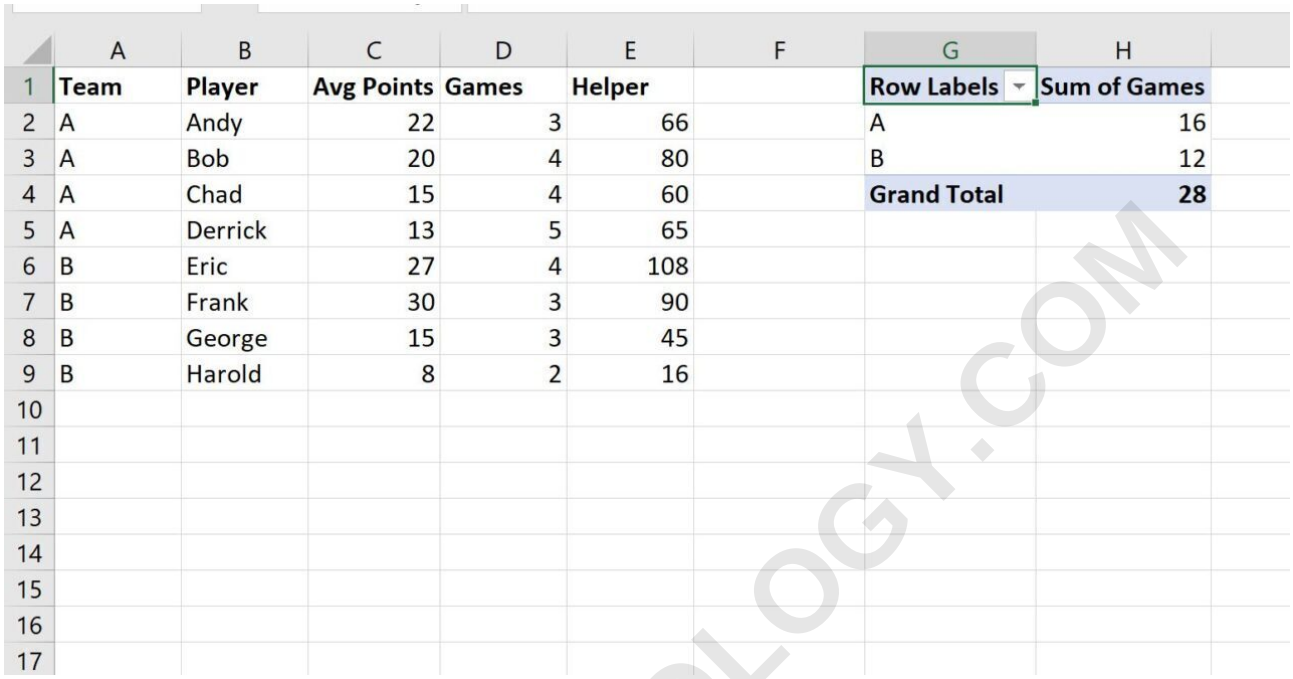
Step 3: Create the Pivot Table

To create the pivot table, we'll highlight the cells in the range A1:E9, then click the PivotTable icon within the Insert tab along the top ribbon.

In the PivotTable fields panel that appears, we'll drag Team to the rows box and Games to the Values box:



The following pivot table will appear:



	A	B	C	D	E	F	G	H
1	Team	Player	Avg Points	Games	Helper		Row Labels	Sum of Games
2	A	Andy	22	3	66		A	16
3	A	Bob	20	4	80		B	12
4	A	Chad	15	4	60		Grand Total	28
5	A	Derrick	13	5	65			
6	B	Eric	27	4	108			
7	B	Frank	30	3	90			
8	B	George	15	3	45			
9	B	Harold	8	2	16			
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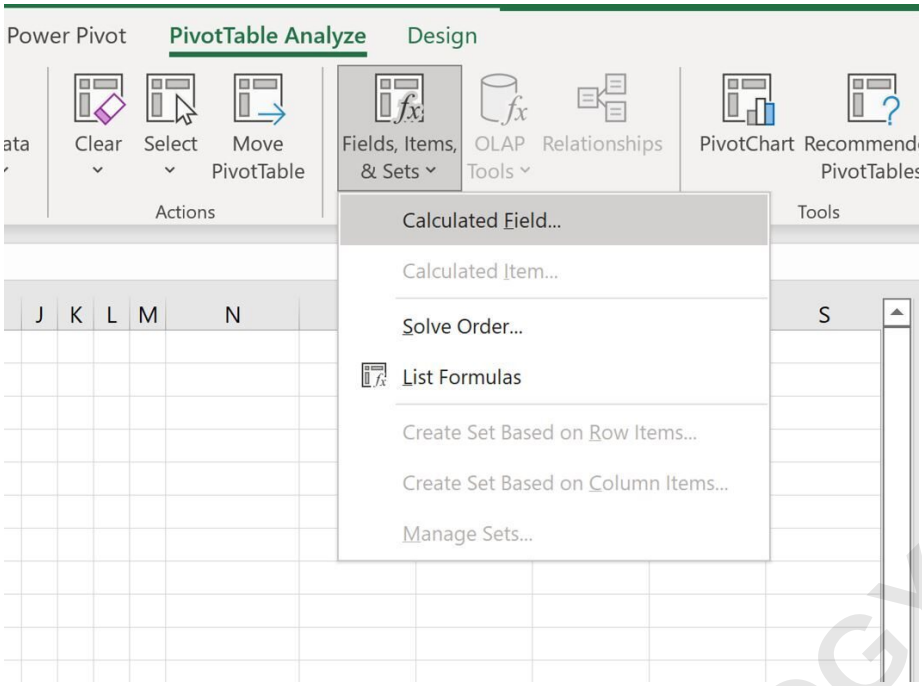
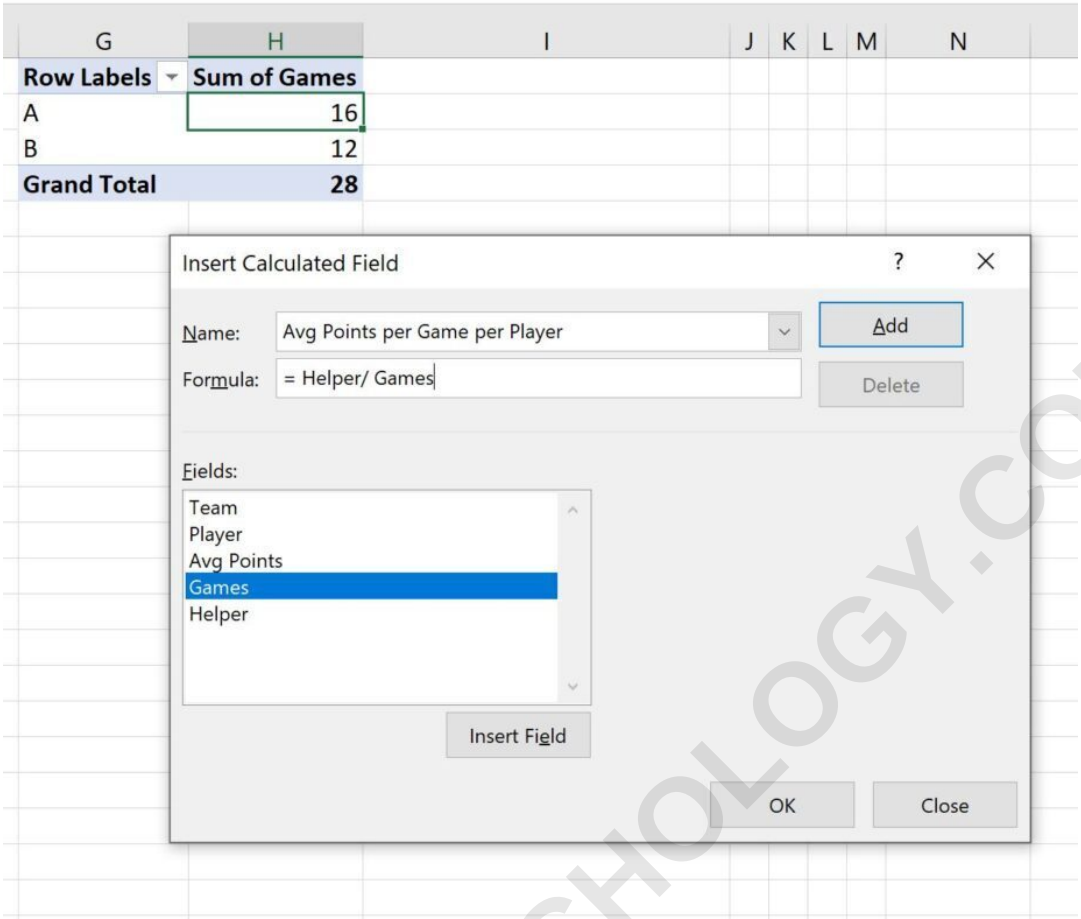
Step 4: Add Weighted Average Column to Pivot Table

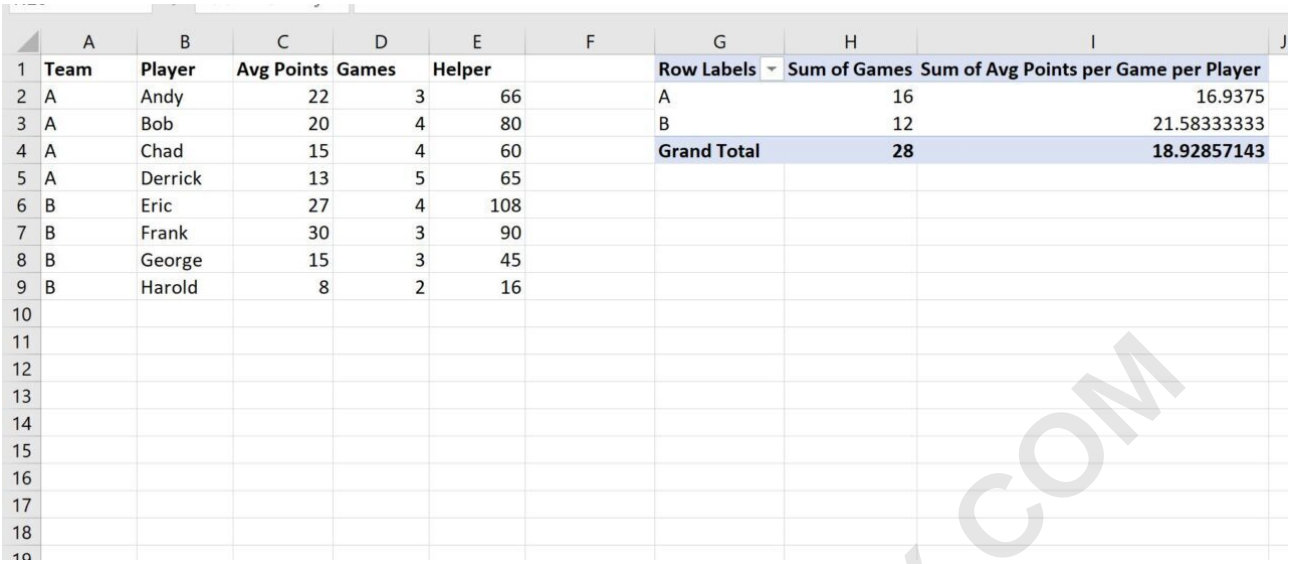
To add a weighted average column that shows the average points per game per player for each team, click any cell in the pivot table, then click the icon called Fields, Items, & Sets within the PivotTable Analyze tab, then click Calculated Field:



In the new window that appears, type = Helper / Games in the Formula box, then click OK:



A new column that shows the average points per game per player for each team will be added to the pivot table:



	A	B	C	D	E	F	G	H	I	J
1	Team	Player	Avg Points	Games	Helper		Row Labels	Sum of Games	Sum of Avg Points per Game per Player	
2	A	Andy	22	3	66		A	16	16.9375	
3	A	Bob	20	4	80		B	12	21.58333333	
4	A	Chad	15	4	60		Grand Total	28	18.92857143	
5	A	Derrick	13	5	65					
6	B	Eric	27	4	108					
7	B	Frank	30	3	90					
8	B	George	15	3	45					
9	B	Harold	8	2	16					
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We can confirm that the average points per game per player is correct by manually calculating it from the original dataset.

For example, we could calculate the average points per game per player for team A as:

Avg Points per Game per Player: (22*3 + 20*4 + 15*4 + 13*5) / (3+4+4+5) = 16.9375

This matches the value that appears in the pivot table.

The following tutorials explain how to perform other common tasks in Excel: