

How do I calculate class width in Google Sheets?

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Calculating class width in Google Sheets is a simple process that allows you to determine the range of values that fall within a particular class or group. To calculate the class width, you will first need to have a set of data organized into a frequency table. Once you have this, you can simply subtract the lower limit of one class from the lower limit of the next class to determine the width. This can be easily achieved by using the subtraction formula in Google Sheets. By calculating the class width, you can better understand the distribution of your data and make more accurate interpretations and analyses.

Calculate Class Width in Google Sheets

In a frequency distribution, class width refers to the difference between the upper and lower boundaries of any class or category.

For example, the following frequency distribution has a class width of 4:

Number of points	Frequency
1-5	6
6-10	9
11-15	12
16-20	8
21-25	3
26-30	2

For example:

The class width for the first class is $5 - 1 = 4$ The class width for the second class is $10 - 6 = 4$ The class width for the third class is $15 - 11 = 4$

And so on.

You can calculate the class width for any dataset by using the following formula:

$$\text{Class width} = (\text{max} - \text{min}) / n$$

where:

max: The maximum value in the dataset
min: The minimum value in the dataset
n: The number of classes you want to use

The following example illustrates how to calculate class width for a dataset in Google Sheets.

Example: How to Calculate Class Width in Google Sheets

Suppose we have the following dataset of 20 values in Google Sheets:

	A	B	C	D	E
1	Dataset				
2	2				
3	3				
4	3				
5	4				
6	5				
7	5				
8	6				
9	7				
10	8				
11	12				
12	13				
13	13				
14	14				
15	17				
16	18				
17	19				
18	22				
19	24				
20	25				
21	25				
22					
23					
24					

Suppose we'd like to create a frequency distribution for this dataset using $n = 5$ classes.

We can use the following formula in Google Sheets to find the class width for this frequency distribution:

$$=(\text{MAX}(A2:21)-\text{MIN}(A2:A21))/5$$

D2 fx $=(\text{MAX}(\text{A2:A21})-\text{MIN}(\text{A2:A21}))/5$

	A	B	C	D	E
1	Dataset				
2	2		Class Width	4.6	
3	3				
4	3				
5	4				
6	5				
7	5				
8	6				
9	7				
10	8				
11	12				
12	13				
13	13				
14	14				
15	17				
16	18				
17	19				
18	22				
19	24				
20	25				
21	25				
22					
23					
24					

The class width turns out to be 4.6.

As a rule of thumb, we always round up to the nearest integer so in this case we would use a class width of 5.

Lastly, we can create a frequency table that uses a class width of 5:

	A	B	C	D	E	F
1	Data					
2	2		Class width	5		
3	3					
4	3		Class	Frequency		
5	4		1-6	7		
6	5		7-12	3		
7	5		13-18	5		
8	6		19-24	3		
9	7		25-31	2		
10	8					
11	12					
12	13					
13	13					
14	14					
15	17					
16	18					
17	19					
18	22					
19	24					
20	25					
21	25					
22						
23						
24						

Notice the following about our frequency distribution:

The width for each class is 5. The sum of the values in the "Frequency" column adds up to 20. This matches the total number of values in our dataset.

We can use this general approach to calculate the class width of a frequency distribution for any dataset in Google Sheets.