Lesson 3 Weighted Mean

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A weighted mean includes the weight of each value in a set of data.
ie. the way your math mark is calculated
(Tests 40%, Assignments 40%, Exam 20%)

Example 1

a.) The table shows Tyler's math marks. Determine his average mark.

Course Work	Mark (%)
Homework	90
Quizzes	62
Projects	68
Exams	75
Presentations	85

$$\frac{(90+62+68+75+85)}{5}$$

76%

b.) Tyler's teacher uses a weighted mean to determine final marks. Determine his weighted mean based on the weights in the chart.

Course Work	Counts for (%)
Homework	10
Quizzes	20
Projects	15
Exams	50
Presentations	5

marks	×	weight	
90		10	900
62		20	1240
68		15	1020
75		50	3750
85		5	425
Sum		100	7335

add

$$\text{Weighted mean} = \frac{7335}{100}$$

$$= 73.35\%$$

$$\text{Weighted Mean} = \frac{\text{sum of values } x \text{ their weight}}{\text{sum of weights}}$$

Example 2

Jenn ranks job applicants from 1 to 5 in four different categories as shown in the chart.

Category	Avery	Bryn
Education	4	3
Experience	5	2
Communication	2	4
Leadership	2	3

a.) Determine the mean score for each applicant.

Avery $\frac{4+5+2+2}{4} = 3.25$ Bryn $\frac{3+2+4+3}{4} = 3$

b.) If Jenn assigns the following weights to each category, determine each applicant's weighted mean.

Category	Weight
Education	10
Experience	5
Communication	20
Leadership	15
Total	50

Avery	* weight	
4	10	40
5	5	25
2	20	40
2	15	30
	sum	= 135

weighted mean $= \frac{135}{50} = 2.7$

Bryn	weight	
3	10	30
2	5	10
4	20	80
3	15	45
		165

weighted mean $= \frac{165}{50} = 3.3$