

Statistics Extras

1. The computation of a grade point average (GPA) is a very important example of a **weighted average**. The formula for calculating GPA is:

$$\text{GPA} = \frac{\sum (\text{credits} \cdot \text{quality points})}{\sum \text{credits}}$$

where an A in a course means 4 quality points, B = 3, C = 2, D = 1, and F or WF = 0. The grade of W in a course does not count toward a student's GPA both in the credits and quality points areas of the formula (but will affect financial aid!).

Joe Gordon makes the following grades one semester. Compute his GPA. Round to the nearest tenth or hundredth.

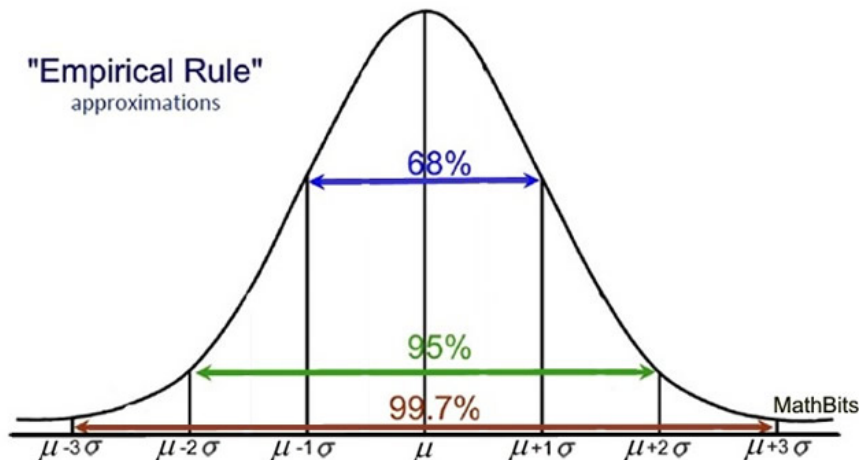
Course	Credits	Grade	Course	Credits	Grade
MATH 1001	3	B	PHED 1100C	3	A
MATH 0987	1	A	PHED 1402	1	A
ENGL 1101	3	C	GFYE 0097	1	A
HIST 2111	3	B			

2. For the following sample data, use the range rule of thumb to predict the standard deviation. Then calculate the standard deviation.

Jordan Speth's recent Traveler's PGA Tournament scores: 63, 69, 66, 70

3. If the mean of a distribution of SAT Math scores is 500 and the standard deviation is 100, what proportion of the data is between:

(a) 400 and 600? (b) 300 and 700? (c) 200 and 800? (d) 400 and 800?



- 68% of the distribution lies within **one** standard deviation of the mean.
- 95% of the distribution lies within **two** standard deviations of the mean.
- 99.7% of the distribution lies within **three** standard deviations of the mean.