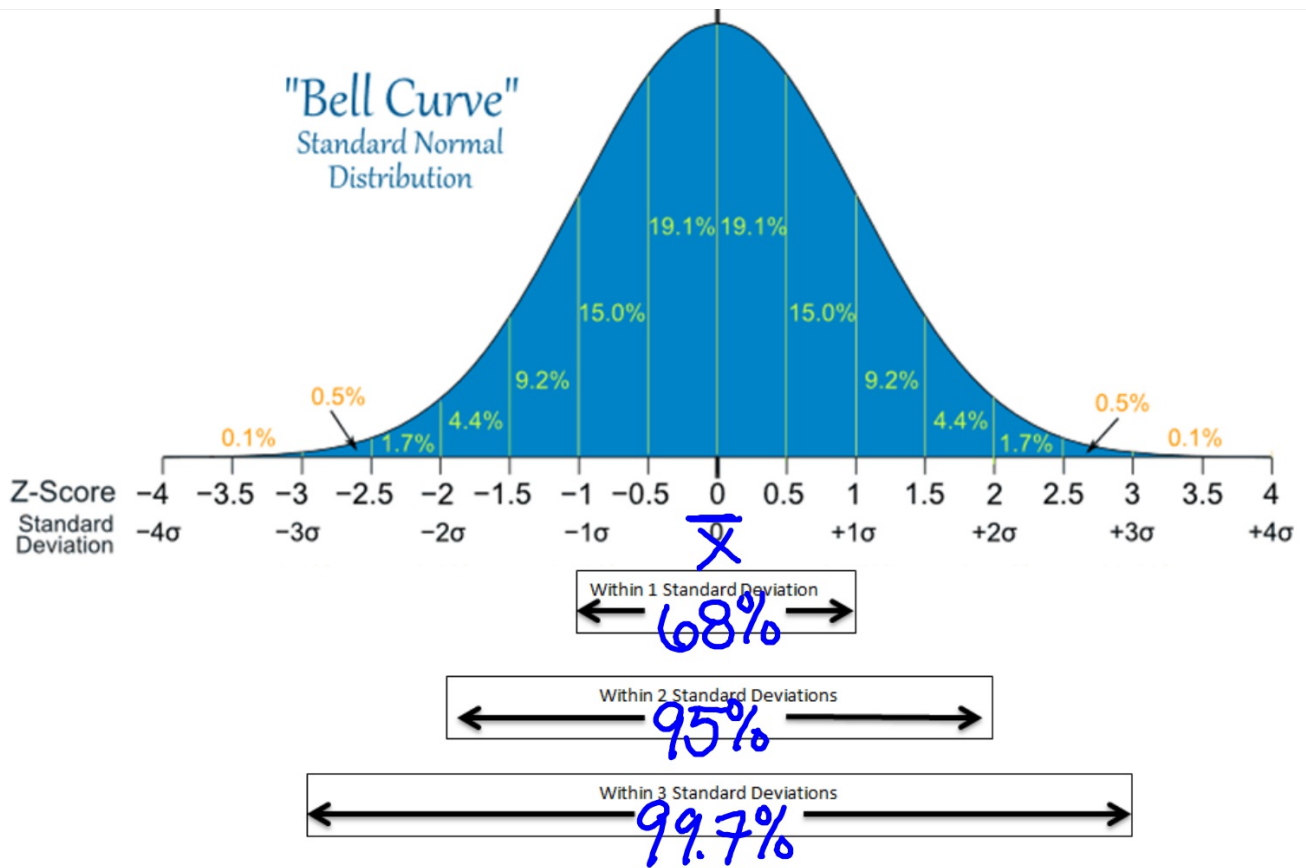
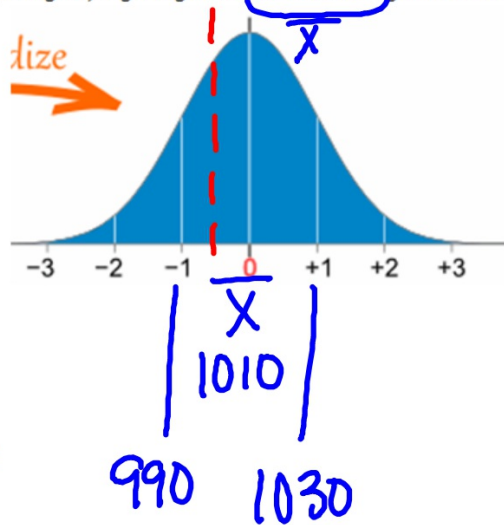


"Bell Curve"
Standard Normal
Distribution



Given that a random sample of 1 kg (1000 gram) sugar bags have mean of 1010 grams and standard deviation of 20 grams, what percentage of bags will weigh BELOW 1000 grams?



add %
below 1000

15%
9.2%
4.4%
1.7%
0.5%
0.1%

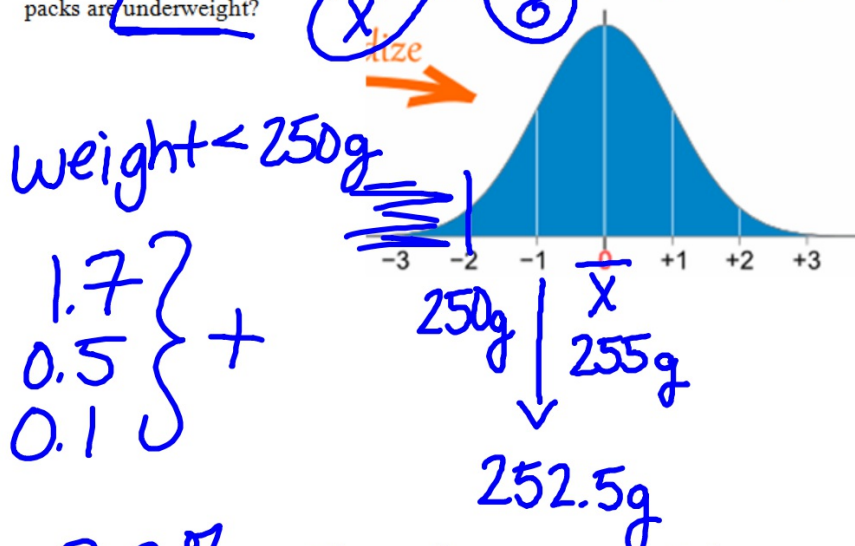
+

$\approx 30.9\%$
of bags will be
under weight.

OR
 $50\% - 19.1\%$
 $\approx 30.9\%$

Example 2

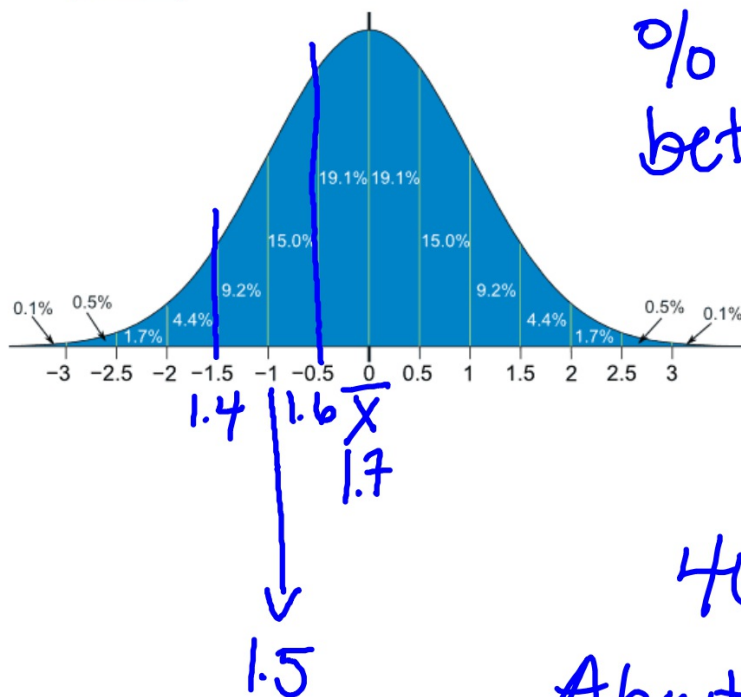
The Fresha Tea Company pack tea in bags marked as 250 g. A large number of packs of tea were weighed and the mean and standard deviation were calculated as 255 g and 2.5 g respectively. Assuming this data is normally distributed, what percentage of packs are underweight?



2.3% of the packs will be underweight.

Example 3

The heights of male adults are Normally distributed with mean \bar{x} 1.7 m and standard deviation σ 0.2 m. In a population of 400 male adults, how many would you expect to have a height between 1.4 m and 1.6 m?



% of population
between 1.4m and 1.6m
9.2% } +
15.0% }

24.2%

$$400(0.242) \approx 96.8$$

About 97 adults
between 1.4m and 1.6m.