

STATISTICS: NORMAL DISTRIBUTIONS, 68-95-99.7 RULE [PIRNOT 14.4]

EX 14.4.1: A normal distribution has a mean of 100 and a standard deviation of 20.

- (a) Use the 68-95-99.7 Rule to find the percentage of values in the distribution between 80 and 120.
- (b) Use the 68-95-99.7 Rule to find the percentage of values in the distribution between 100 and 120.
- (c) Use the 68-95-99.7 Rule to find the percentage of values in the distribution between 80 and 100.
- (d) Use the 68-95-99.7 Rule to find the percentage of values in the distribution between 60 and 140.
- (e) Use the 68-95-99.7 Rule to find the percentage of values in the distribution between 60 and 160.
- (f) Use the 68-95-99.7 Rule to find the percentage of values in the distribution less than 160.
- (g) Use the 68-95-99.7 Rule to find the percentage of values in the distribution greater than 160.
- (h) Use the 68-95-99.7 Rule to find the percentage of values in the distribution less than 80.
- (i) Use the 68-95-99.7 Rule to find the percentage of values in the distribution greater than 80.
- (j) Use the 68-95-99.7 Rule to find the percentage of values in the distribution less than 80 or greater than 120.
- (k) Use the 68-95-99.7 Rule to find the percentage of values in the distribution less than 100 or greater than 160.

EX 14.4.2: The distribution of 1000 exam scores is a normal distribution with mean 60 and standard deviation 15.

- (a) How many exam scores are expected to fall between 45 and 75?
- (b) How many exam scores are expected to fall between 30 and 90?
- (c) How many exam scores are expected to fall between 15 and 105?
- (d) How many exam scores are expected to be greater than 60?
- (e) How many exam scores are expected to be less than 30?
- (f) How many exam scores are expected to be less than 15 or greater than 90?