

What **is** Learning?

Example – Elevators

Suppose an elevator has a maximum capacity of 16 passengers with a total weight of 2500 lb.

Assuming a worst case scenario in which the passengers are all male, what are the chances the elevator is overloaded?

Assume male weights follow a normal distribution with a mean of 182.9 lb and a standard deviation of 40.8 lb.

- a. Find the probability that 1 randomly selected male has a weight greater than 156.25 lb.
- b. Find the probability that a sample of 16 males have a mean weight greater than 156.25 lb (which puts the total weight at 2500 lb, exceeding the maximum capacity).



After