

$$3a) X \sim B(15, 0.25)$$

$$b) \text{ mean} = X \times 0.25 = 3.75$$

$$c) P(X \geq 10) =$$

$$1 - \binom{15}{9} (.25)^9 (.75)^6 =$$

$$\binom{15}{10}$$

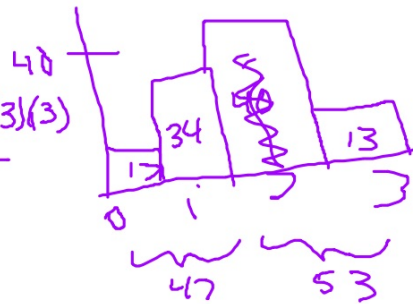
$$7.949 \times 10^{-4}$$

$$0.000795$$

4a) $P(g)$

# of girls	0	1	2	3
Frequency	13	34	40	13

$$\frac{(13 \times 0) + (34 \times 1) + (40 \times 2) + (13 \times 3)}{100}$$



15.3 The Normal Distribution

- no single normal curve
- a family of curves defined by their mean μ and std dev σ ,

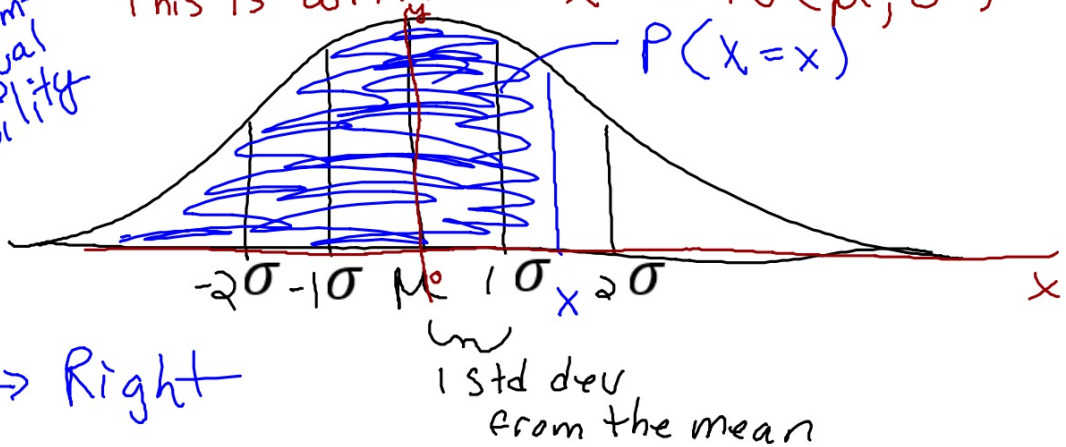
Recall: μ = mean central point of dist
 σ = std dev - describes spread
 σ^2 = Variance

how far you are from the mean

If a random variable X , has normal distribution with mean μ and std dev σ
This is written $X \sim N(\mu, \sigma^2)$

The Area under the curve (cumulative) is equal to the probability $P(X \leq x)$

Left \rightarrow Right



The Standard Normal Distribution:

- is the Normal Distribution where $\mu=0$ and $\sigma=1$. The random variable is Z and uses 'z-scores' or 'z-values' to describe the number of standard deviations any value is away from the mean.

$Z - N(0,1)$

