

Stats Starter 1/30

p. 356 #27, 28

p. 404 #76, 78

Mean and St. Deviation of a binomial R.V.

$$\mu_x = n \cdot p$$

$$\sigma_x = \sqrt{n \cdot p \cdot (1-p)}$$

*only for
binomial
situations

ex: Find the mean (expected value) and standard deviation of the # of kids (out of 5) with type O blood.

$$n = 5$$

$$p = 0.25$$

$$\begin{aligned} \mu_x &= 5(0.25) \\ &= 1.25 \end{aligned}$$

$$\begin{aligned} \sigma_x &= \sqrt{5(0.25)(1-0.25)} \\ &= .968 \end{aligned}$$

Condition #2 for Binomial Situations

- In the real world, most sampling is done without replacement. → Not Independent.

So: let's alter the independent rule: ^{in SRS}

If it's not independent (no replacement)
then it's okay if we have < 10% of population