

1.2 For a sample of 500 adults, determine the mean and standard deviation of the number who are aware that a poor diet can increase their risk of cancer, if 82 percent of all adults are aware of this fact. Above and below what numbers would be unusual for the number of adults who are aware that a poor diet can increase their risk of cancer.

Is this binomial?

~~✓~~ F n = 500

~~✓~~ I

~~✓~~ T

~~✓~~ Constant p = 0.82

$$\mu = (500)(.82) = \boxed{410}$$

$$\sigma = \sqrt{(500)(.82)(.18)} \approx \boxed{8.59}$$

$$\mu \pm 2\sigma \quad 410 \pm (2)(8.59)$$

$$392.8 \leq \text{Usual} \leq 427.2$$

below 392.8 or above 427.2

Formulas:

$$\mu = np$$

$$\sigma = \sqrt{npq}$$

STUDY: Chapter 4: Section 4.4

- Mean and standard deviation for binomial dist's