The following list of formulas will be provided on the exam. They will look exactly like this, with know explanation of what they mean, when to use them, or how to use them.

$$\bar{x} = \frac{\sum X_i}{n} \qquad \mu = \sum X_i \cdot P(X_i) \qquad \mu = n \cdot p$$

$$s^2 = \frac{\sum (X_i - \bar{x})^2}{n-1} \qquad \sigma^2 = \sum (X_i - \mu)^2 \cdot P(X_i) \qquad \sigma^2 = n \cdot p \cdot (1-p)$$

$$s = \sqrt{s^2} \qquad \sigma = \sqrt{\sigma^2} \qquad z = \frac{x - \mu}{\sigma}$$

$$\mu_{\bar{x}} = \mu \qquad \sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}} \qquad \bar{x} \pm Z \cdot \frac{\sigma}{\sqrt{n}}$$

$$\mu_p = \pi \qquad \sigma_p = \sqrt{\frac{\pi(1-\pi)}{n}} \qquad p \pm Z \cdot \sqrt{\frac{p(1-p)}{n}}$$

$$\bar{x} \pm t_{n-1} \cdot \frac{s}{\sqrt{n}} \qquad n = \left[\frac{z \cdot \sigma}{E}\right]^2 \qquad n = \left[\frac{z}{E}\right]^2 p(1-p)$$

$$z = \frac{\bar{x} - \mu}{\sigma / \sqrt{n}} \qquad t = \frac{\bar{x} - \mu}{s / \sqrt{n}} \qquad z = \frac{p - \pi}{\sqrt{\frac{\pi(1-\pi)}{n}}}$$