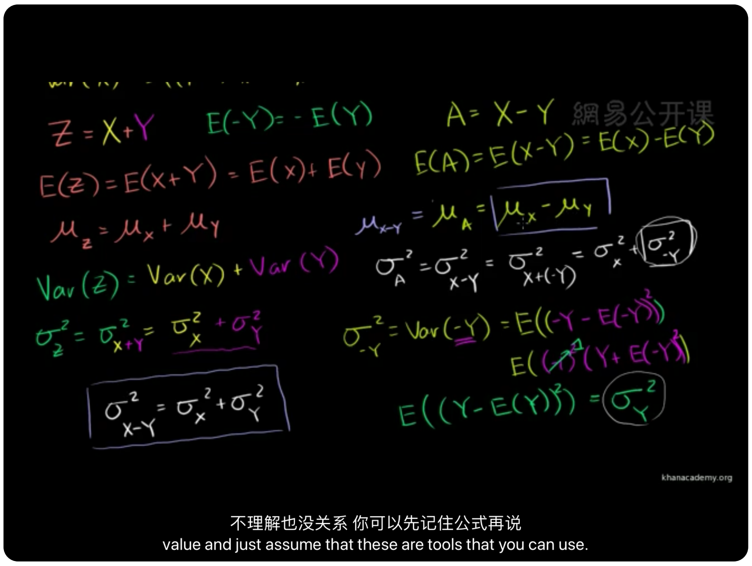

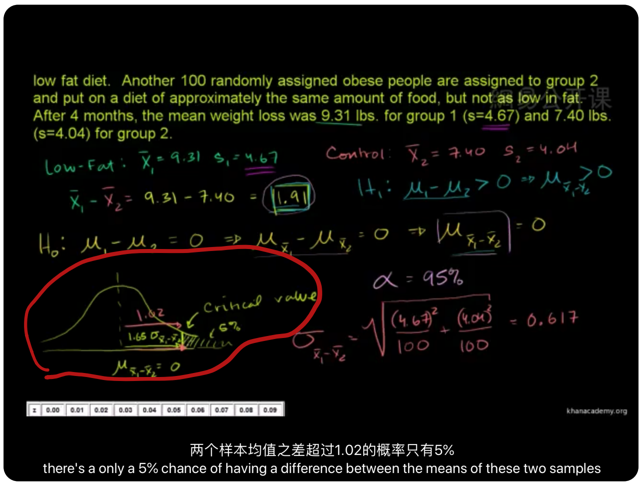

取消 完成

随机变量之差の方差

$$Var(x) = E(X-u_x)^2$$
$$= \frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2$$

$$\sigma^2_{X+Y} = E(X+Y-u_{X+Y})^2$$
$$= \frac{\sum (X+Y)^2}{N} - u_{X+Y}^2$$
$$= \frac{\sum X^2 + 2\sum XY + \sum Y^2}{N} - (u_X+u_Y)^2$$
$$= \frac{\sum X^2}{N} - u_X^2 + \frac{\sum Y^2}{N} - u_Y^2 + \frac{2\sum XY}{N} - 2u_Xu_Y$$
$$= \sigma_X^2 + \sigma_Y^2$$

$$\sigma_Y^2 = \sigma_{-Y}^2$$

$$\sigma^2_{X+Y} = \sigma^2_{X-Y} = \sigma_X^2 + \sigma_Y^2$$
$$\sigma_{\bar{X}_1-\bar{X}_2} = \cancel{\sqrt{\frac{\sigma_{X_1}^2 - \sigma_{X_2}^2}{n}}} \sqrt{\frac{\sigma_{X_1}^2}{n} + \frac{\sigma_{X_2}^2}{n}}$$

均值之差の置信区间

把 $X_1 - X_2$ 看作X

临界值 critical value

Date

贝努利分布

$$\sigma^2 = p(1-p)$$

两样本占比之差的抽样分布

$$\sigma_{x_1-x_2} = \sigma_{x_1+x_2}$$

$$Z = \frac{\bar{x}-u}{\sigma_{\bar{p}_1-\bar{p}_2}}$$

进行的估计

$$\sigma_{\bar{p}_1-\bar{p}_2} = \sqrt{\frac{p_1(1-p_1)}{n} + \frac{p_2(1-p_2)}{n}}$$

检验

$$p_1 = p_2 = p$$

更准确?

$$\sigma_{\bar{p}_1-\bar{p}_2} = \sqrt{\frac{2p(1-p)}{n}}$$

$$p = \frac{p_1+p_2}{2}$$