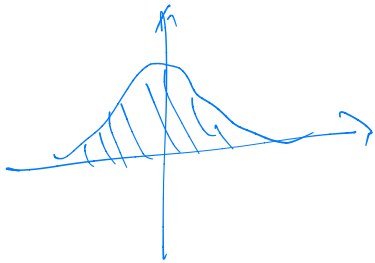
35. Central limit theorem 中心极限定理

$S_1 = [1, 1, 3, 6]$ $\bar{x} = 2.75$

$S_2 = [3, 2, 3, 1]$ $\bar{x}_2 = 2.75$

$S_3 = [1, 1, 6, 6]$ $\bar{x}_3 = 3.5$



随着样本容量的增加，我们将会得到正态分布

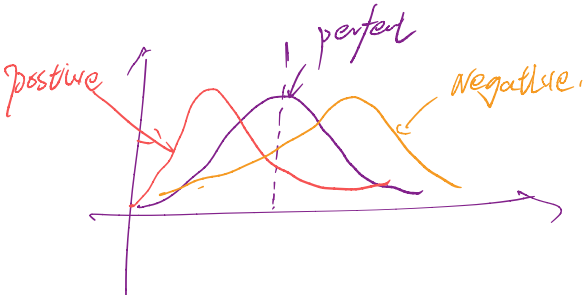
normal distribution

36. Sampling Distribution of the Sample mean.

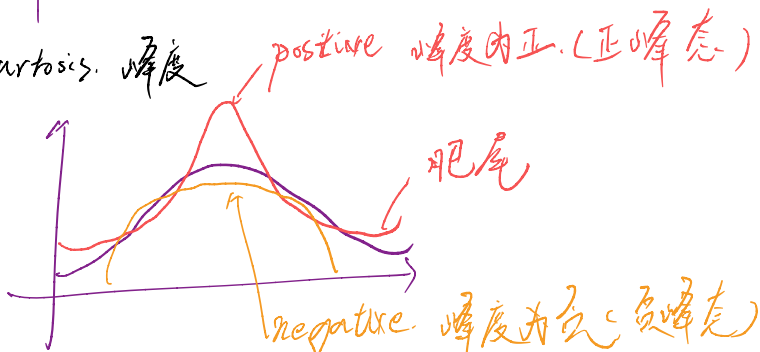
样本均值的抽样分布.

perfect normal distribution 完美正态分布.

的 skew 偏度为 0.



Kurtosis. 峰度



37. discrete distribution 离散分布

38. 随着样本容量的增大. ① 更接近正态分布
② 标准差更小

standard deviation 标准差.

整体: σ^2 n

样本: $\sigma_{\bar{x}}^2 = \frac{\sigma^2}{n}$ $\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$

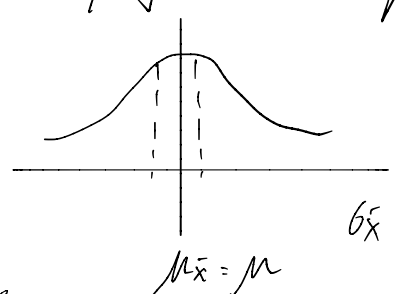
样本均值的方差等于原分布的方差除以样本值.

39.

40. 置信区间.

population distribution

Sampling distribution of mean



P(μ is within 12 of $\bar{x}$)

= P($\bar{x}$ is within 12 of μ)

= P($\bar{x}$ is within 12 $\mu_{\bar{x}}$)

= P($\bar{x}$ is within 1.8 $\sigma_{\bar{x}}$'s of $\mu_{\bar{x}}$)

$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$

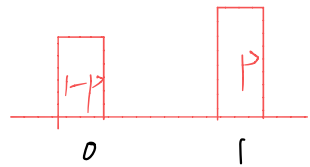
$= \frac{40}{6}$

$= 6.67$

41. 伯努力分布的均值和方差的例子. Bernoulli Distribution

unfavorable $1-p$

Favorable p



$\mu = (1-p)\cdot 0 + p\cdot 1$

$= p$

$\sigma^2 = (1-p)(0-p)^2 + (p)(1-p)^2$

$= p(1-p)$

43. 设差范围.

44.

45.

46. 十折本容量置信区间.