

$$T_3 \text{ (a) } \sigma_{\bar{x}} = 10$$

$$z_1 = \frac{45.5 - 50}{10} = -0.45 \quad z_2 = \frac{54.5 - 50}{10} = 0.45$$

$$P(45 < X < 55) = (0.5 - 0.3264) \times 2 = 0.3472$$

$$\text{(b) } \sigma_{\bar{x}} = \frac{10}{\sqrt{25}} = 2$$

$$z_1 = \frac{45.5 - 50}{2} = -2.25 \quad z_2 = \frac{54.5 - 50}{2} = 2.25$$

$$P(45 < \bar{X} < 55) = (0.5 - 0.0122) \times 2 = 0.9756$$

$$T_4 \text{ (a) } \sigma_{\bar{x}} = \frac{12}{\sqrt{14}} = 6$$

$$z_1 = \frac{70.5 - 75}{6} = -0.75 \quad z_2 = \frac{79.5 - 75}{6} = 0.75$$

$$P(70 < \bar{X} < 80) = (0.5 - 0.2266) \times 2 = 0.5468$$

$$\text{(b) } \sigma_{\bar{x}} = \frac{12}{\sqrt{16}} = 3$$

$$z_1 = \frac{70.5 - 75}{3} = -1.5 \quad z_2 = \frac{79.5 - 75}{3} = 1.5$$

$$P(70 < \bar{X} < 80) = (0.5 - 0.0668) \times 2 = 0.8664$$

$$T_5 \text{ (a) } \sigma_{\bar{x}} = \frac{80}{\sqrt{25}} = 16$$

$$\text{(b) } \sigma_{\bar{x}} = \frac{80}{\sqrt{100}} = 8$$

$$\text{(c) } \sigma_{\bar{x}} = \frac{80}{\sqrt{400}} = 4$$

(d) 样本容量越大, 标准误越小.

T<sub>6</sub>. (a) I类错误为取伪错误, 假设错误但接受假设, 产生此类错误可能是因为样本变异性过大

(b) II类错误为弃真错误。假设正确但拒绝假设。

产生此类错误可能是受到了样本极端值的影响。