6.11

$n_1 = 12,\ \mu_1 = 36 = \bar{x},\ s_1 = 5$

$n_2 = 15,\ \mu_2 = 32 = \bar{y},\ s_2 = 7$

$n < 30$
σ 未知 → 大分西記

$1-\alpha = 90\% = 0.9$

$\alpha = 0.1 \quad \frac{\alpha}{2} = 0.05$

$$(\bar{x}-\bar{y}) \pm t_{\frac{\alpha}{2}}(n_1+n_2-2)\sqrt{s_p^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}$$

$$= (36-32) \pm t_{0.05}(15+12-2)\sqrt{38.44\left(\frac{1}{12}+\frac{1}{15}\right)}$$

$$s_p^2 = \frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}$$

$$= \frac{(14)7^2+(11)5^2}{25}$$

$$= \frac{961}{25} = 38.44$$

$$= 4 \pm t_{0.05}(25) \times 2.401$$

$$= 4 \pm 1.708 \times 2.401$$

$$= 4 \pm 4.1 = (-0.1, 8.1)$$

$\frac{12+15}{180} = \frac{27}{180}$

$\underbrace{\quad\quad}_{0.15}$