9.10

$H_0: \mu_1=\mu_2=\mu_3$ $n=5+6+6=17$

$SST=\sum_{i=1}^{3}\sum_{j=1}^{n_i} y_{ij}^2-\frac{T^2}{n}=39.159-33.264=5.895$

$SSTR=\sum_{i=1}^{k}\left(\frac{T_i^2}{n_i}\right)-\frac{T^2}{n}=37.873-33.264=4.609$

$SSE=SST-SSTR=1.286$

$SSTR=4.609$ $3-1=2$ $MSTR=2.305$ $\frac{2.305}{0.092}=25.04$

$SSE=1.286$ $17-3=14$ $MSE=0.092$

$SST=5.895$ $17-1=16$

$F=25.05>F_{0.05}(2,14)=3.74$

拒绝 H_0，认为三种施肥对小麦的影响有明显差异

9.12 $m=\binom{3}{2}=3$ $F_{0.05}(3-1, 17-3)=3.74$

$S=\sqrt{MSE}=\sqrt{0.092}=0.303$

$\sqrt{(k-1)F}=\sqrt{(3-1)3.74}=2.73$

$\mu_2-\mu_1$: $(1.53-0.63)\pm 2.73\times 0.303\times\sqrt{\frac{1}{6}+\frac{1}{5}}=(0.349, 1.411)$ 不包0

$\mu_3-\mu_2$: $(1.91-1.53)\pm 2.73\times 0.303\times\sqrt{\frac{1}{6}+\frac{1}{6}}=(-0.098, 0.858)$ 包0

$\mu_3-\mu_1$: $(1.91-0.63)\pm 2.73\times 0.303\times\sqrt{\frac{1}{6}+\frac{1}{5}}=(0.779, 1.781)$ 不包含0