10.6

(a) $\alpha = P(|y-18| \geq 4 \mid p = .5)$

$= 1 - P(|y-18| < 4 \mid p = .5)$

$= 1 - P(y = 15, 16, 17, 18, 19, 20, 21 \mid p = .5)$

$= 0.243$

(b) $\beta = P(|y-18| < 4 \mid p = 0.7)$

$= 0.092$

10.18 $H_0 : \mu = 13.20$ $H_a : \mu < 13.20$

Rejection region at $\alpha = 0.01$ is

$$\left\{ \frac{\bar{y} - 13.20}{2.5/\sqrt{40}} < z_{0.01} \right\}$$

$\Rightarrow$ putting in the value of $\bar{y} = 12.20$.

$-2.52 < z_{0.01} = -2.33$

Therefore, we reject H_0.