ch 8 Q4

$H_0 : \sigma^2 = 0.04$

$H_a : \sigma^2 > 0.04$

Test statistic $\chi^2 = \dfrac{(n-1)s^2}{\sigma_0^2} = \dfrac{29 \times 0.054}{0.04} \approx 39.15$

Rejection region (at $\alpha = 0.05$ level):

$$\chi^2 > qchisq(1-\alpha, n-1)$$
$$= qchisq(0.95, 29)$$
$$\approx 42.556$$

But $39.15 < 42.556$

∴ There is not enough $\overset{\text{statistical}}{\wedge}$ evidence

to reject the null hypothesis

that $\sigma^2 = 0.04$ (so naturally,

we cannot reject $\sigma^2 \le 0.04$

either)

∴ Shipment should not be returned.