

ch 9: section 9.1

Question 6. The probability is 0.01

Question 2:

(a) $H_0: \mu = 45$, $H_1: \mu < 45$

(b) $R: Z \leq -1.645$

(c) $Z = \frac{\bar{X} - \mu}{\frac{\sigma}{\sqrt{n}}}$

$$-1.645 = \frac{\bar{X} - 45}{\frac{\sqrt{38}}{\sqrt{38}}}$$

$$\bar{X} = \frac{\sqrt{38}}{\sqrt{38}} X - 1.645 + 45$$

$$\bar{X} = 43.132$$

$$R: \bar{X} \leq 43.13$$

(d) Yes

Question 4

Decision.	H_0 True	H_0 false
Reject H_0	Type I error	Correct decision
Retain H_0	Correct decision	Type II error

Question 3

$$0.05 \times 100$$

$$= 5 \text{ times}$$