PROBLEM 3:

$$EV = \frac{\text{Row Total} \times \text{Col Total}}{\text{Total}}$$

- ATTENDED x PASSED: $EV = \frac{31 \times 33}{54} = 18.94$
- ATTENDED x FAILED: $EV = \frac{31 \times 21}{54} = 12.06$
- SKIPPED x PASSED: $EV = \frac{23 \times 33}{54} = 14.06$
- SKIPPED x FAILED: $EV = \frac{23 \times 21}{54} = 8.94$

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

$$\chi^2 = \frac{(25-18.94)^2}{18.94} + \frac{(6-12.06)^2}{12.06} + \frac{(8-14.06)^2}{14.06} + \frac{(15-8.94)^2}{8.94}$$

$$= \frac{36.67}{18.94} + \frac{36.67}{12.06} + \frac{36.67}{14.06} + \frac{36.67}{8.94}$$

$$= 1.94 + 3.04 + 2.61 + 4.10$$

$$= 11.96$$

$$df = (r-1) \times (c-1)$$

$df = (2-1) \times (2-1) = 1$

Critical Value = 3.841

$11.69 > 3.841$

- Passing has a significant dependancy on attendance.