Chapter 11
Comparisons Involving Proportions and a Test of Independence

Solutions:

2. a. $\bar{p} = \dfrac{n_1\bar{p}_1 + n_2\bar{p}_2}{n_1 + n_2} = \dfrac{100(.28) + 140(.20)}{100 + 140} = .2333$

b. $z = \dfrac{\bar{p}_1 - \bar{p}_2}{\sqrt{\bar{p}(1-\bar{p})\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}} = \dfrac{.28 - .20}{\sqrt{.2333(1-.2333)\left(\dfrac{1}{100} + \dfrac{1}{140}\right)}} = 1.44$

p - value = 2(1 - .9251) = .1498

c. p-value > .05; do not reject H_0. We cannot conclude that the two population proportions differ.