

Page 351. INSTRUCTIONS: For p , SE, z , p -value, acceptance regions, show both the final answer and the unsimplified formula answer. E.g.,
 $p = (50+60)/(100+100) = .55$
 $SE = \sqrt{(.55)(.45)(\frac{1}{100} + \frac{1}{100})} = .0704$
 $z = (50/100 - 60/100)/.0704 = -1.4213$
 $p\text{-value} = 2P(z < -1.42) \approx 2(.5 - .4222) = .1556 = 15.56\%$

9.34(7). Independent random samples are selected from binomial populations 1 and 2 respectively. Sample 1 has $n_1 = 140$ elements with $x_1 = 74$ successes. Sample 2 has $n_2 = 140$ elements with $x_2 = 81$ successes. 1% signif.
 (a) You don't have any reason to believe one population mean is larger than the other; you just want to determine if they differ. What are your null and alternative hypotheses?

H_a :

H_0 :

(b) Find the pooled estimate for the combined proportion p . Then estimate the standard error for the difference $\hat{p}_1 - \hat{p}_2$ in the sample proportions.

$p =$. _ _ _ _ 19

(c) $SE \approx$. _ _ _ _ 18

(d) Accept region: $\hat{p}_1 - \hat{p}_2 \in$

Note: $\alpha = .01$

(e) $\hat{p}_1 - \hat{p}_2 =$. _ _ 5

(f) $z =$ _ . _ _ 12

(g) The 1% acceptance region for the z -values.

(h) p -value = . _ _ 4

(i) The 1% acceptance region for the p -values.

(j) At 1% significance, should you accept or reject the null hypothesis?

9.36(6). Independent random samples are selected from binomial populations 1 and 2 respectively. The first has 280 elements with 132 successes; the second has 350 with 178 successes. Is $p_1 < p_2$?

(a) H_a :

H_0 :

(b) Null region: $p_1 - p_2 \in$

(c) Pooled $p =$. _ _ _ _ 16

(d) $SE \approx$. _ _ 4

(e) Acceptance region for $\hat{p}_1 - \hat{p}_2$:

(f) $\hat{p}_1 - \hat{p}_2 =$ _ . _ _ _ _ 11

(g) Is p_1 significantly less than p_2 ?

9.38(6). The following data compares the employment rate of homeless men with the rate for men with homes but using a meal program. Is there an $\alpha = 1\%$ significant difference?

	Homeless	Domciled
Sample size	112	260
Number working	34	98
sample proportion	0.30	0.38

(a) H_a :

H_0 :

(b) Pooled $p =$. _ _ _ _ 20

(c) $SE \approx$. _ _ _ _ 17

(d) $z =$ _ . _ _ 10

(e) Rejection region for z -scores:

(f) Is there an $\alpha = 1\%$ significant difference?

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10.2(4). For each α and given number df of degrees of freedom, find the acceptance region for t .

(a) Two-tailed test, $\alpha = .01$, $df = 12$. 26

(b) Right-tailed test, $\alpha = .05$, $df = 16$. 18

(c) Two-tailed test, $\alpha = .05$, $df = 25$. 16

(d) Left-tailed test, $\alpha = .01$, $df = 7$. 28