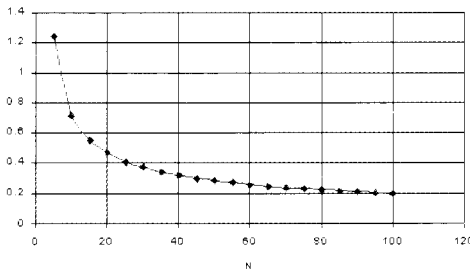


- 7.123 (a) $t = 4.0, P = 0.0001$. Interval = 23.7 to 69.8. There appears to be a difference.
 (b) $t = 0.94, P = 0.35$. Interval = -13.4 to 38. No difference.
- 7.125 $n = 820$.
- 7.127 As df grows, the critical value gets closer to the normal value of 1.96.
- 7.129



- 7.131 (b) $t = -3.33, P = 0.002$. Three-bedroom houses cost less (on average) than four-bedroom houses. (c) Yes, we would expect that smaller houses would cost less. (d) \$105,258 to \$25,538.

Chapter 8

- 8.1 For \hat{p} : 0.1366 to 0.4134. For Wilson estimate: 0.1606 to 0.4303.
- 8.3 (a) $\hat{p} = 7/9 = 0.7778$. (b) Margin of error = 0.3644. The 95% interval is 0.5062 to 1.0494, with the upper limit replaced by 1.
- 8.5 No. Some of those who lied about their degree might also have lied about their major. Someone may have claimed to have a degree in business but was an English major who did not graduate.
- 8.7 0.1996 to 0.2516.
- 8.9 For \hat{p} : 0.8885 to 0.9615. For Wilson estimate: 0.8787 to 0.9546.
- 8.11 For \hat{p} : 0.6124 to 0.7609. For Wilson estimate: 0.6083 to 0.7554.
- 8.13 (a) No. (b) Yes. (c) No. (d) Yes.
- 8.15 (b) $z = 0.9317$, which is still not significant.
- 8.17 For \hat{p} : 0.1014 to 0.2452. For Wilson estimate: 0.1173 to 0.2625.
- 8.19 (a) $z = 1.34$ and the two-sided P -value is 0.18. (b) The 95% interval is 0.4969 to 0.5165.
- 8.21 (b) $z = 2.0997$. (c) Reject at 5% because $z > 1.645$. The actual P -value is 0.018. (d) The 90% interval for her percent is 0.39705 to 0.65057.
- 8.23 384.
- 8.25 288.12. Round up to 289.
- 8.27 144.06. 150.06.
- 8.29

P	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90
Margin	0.1859	0.2479	0.2840	0.3036	0.3099	0.3036	0.2840	0.2479	0.1859

- 8.31 For high-tech–non-high-tech: 0.0081 to 0.230.
- 8.33 0.0299 to 0.0799.
- 8.35 (a) The Wilson estimate for females is 0.7903 with $SE = 0.051$. The estimate for males is 0.3955 with $SE = 0.0419$. (b) The 90% interval for the difference is 0.0668 to 0.285.
- 8.37 -0.1296 to 0.0943.
- 8.39 $z = 5.5287$.
- 8.41 (b) $z = 1.222$ and the P -value is 0.22. This is not significant. (c) -0.036 to 0.154.
- 8.43 (a) 0.5404. (b) 0.0786. (d) $z = 0.2436$. The one-sided P -value is 0.404.
- 8.45 (a) Tippecanoe County: 0.5106. Benton County: 0.40845. (b) 0.02935. (c) 0.0447 to 0.1597.
- 8.47 $z = 1.823$ and the one-sided P -value is 0.034.
- 8.49 (a) $z = 4.921$. This is highly significant. (b) 0.053 to 0.1247.

- 8.51 (a) 72.2% for plasterboard and 50% for glass. The Wilson estimates are 0.7 and 0.5.
 (b) -0.09724 to 0.49724 . (c) $z = 1.3675$ and the one-sided P -value is 0.086 .
- 8.53 (a) $z = 1.934$ and the one-sided P -value is 0.0266 . (b) The same proportions based on a larger sample size result in smaller P -values (that is, more significant results).
- 8.55 Sample proportion: $z = -1.50$ and $P = 0.133$. Wilson estimate: $z = -1.640$ and $P = 0.101$.
- 8.57 $z = 3.309$ and the two-sided P -value is 0.0009 .
- 8.59 (a) $z = 6.985$. (b) 0.1143 to 0.2019 .
- 8.61 $z = 1.34$ and the two-sided P -value is 0.18 . The 95% interval is -0.116 to 0.0615 .
- 8.63 $z = 8.945$, which is extremely significant. The interval is 0.3666 to 0.5553 .
- 8.65 0.02615 .
- 8.67 Reject H_0 for all but Text 3. The last three are not different.

Text	1	2	3	4	5	6	7	8	9	10
\hat{p}	0.872	0.900	0.537	0.674	0.935	0.688	0.643	0.647	0.710	0.876
z	4.64	6.69	0.82	5.31	5.90	5.20	3.02	2.10	6.60	9.05

- 8.69 No, it is a voluntary response sample.
- 8.71 0.0279 to 0.0788 .
- 8.73 $z = -2.15$ and the P -value is 0.0316 .
- 8.75 British: The 95% interval is -0.0154 to 0.0088 ; $z = -0.5$; $P = 0.308$. American: $z = 5.00$.
- 8.77

n	10	20	40	60	80	100	500
Z	0.9129	1.2910	1.8257	2.2361	2.5820	2.8868	6.4550
P	0.1967	0.0679	0.0253	0.0098	0.0039	0.0000	

8.79

n	16	26	56	86	106	506
Margin	0.3465	0.2718	0.1852	0.1494	0.1346	0.0616

- 8.81 (a) $p_0 = 0.7911$. (b) $z = -29.1$. (c) $z = -29.2$.

Chapter 9

- 9.1 (a) The tables below are in percents.

	25-34	35-54	55+
Did not complete high school	3.2	5.5	9.6
Completed high school	8.4	14.5	11.0
College, 1-3 years	7.0	12.0	5.8
College, 4 years	6.2	11.9	4.8

(b)

	25-34	35-54	55+
Total	24.9	43.9	31.3

(c)

Did not complete high school	18.3
Completed high school	33.9
College, 1-3 years	24.8
College, 4 years	23.0