Single Proportion HT Exercises

Pages	Suggested Reading
n/a	(not really sure this section is helpful…my class notes seem a little more concise)

Pages	Problems
394 – 395	(***Section 9.15***) Do all of Practice 3.
397 – 399	(***Section 9.16***) 13, 19

Single Proportion HT Quizzes

(remember – unless otherwise noted, all quizzes from here on out require a template sheet. You can download one from the "resources" page. Also, unless otherwise noted, always test at 5% significance/95% confidence. We'll discuss more as we go)

Quiz 1.

According to a study done by Johns – Hopkins University, adults will score about 75% on a "blue – yellow" circles test. I think you'll do better than 75% (on average), and you're going to test that belief:

1) Open this page (if you need the link: http://graphics8.nytimes.com/packages/flash/science/20080915_NUMBER_SENSE_GRAPHIC/blue_yellow_buffer.swf)
2) Perform one trial, and keep track of whether or not you got the answer right or wrong.
3) Repeat the previous step 19 more times (this ensures that we satisfy $np \geq 5$, and $nq \geq 5$)[1]...n will be 20, and x will be the number of times you got the trials correct.

OK; let's test my belief that you'll exceed 75%. That is, p = proportion of the time you'll get the correct answer, and the research hypothesis is $p > 0.75$)

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[1] Not exactly a simple random sample, but you get the point. Also, the test says to "take it at least 25 times to get a good estimate", but that suspiciously sounds like an A – B study (seeing if practice improves performance). We'll leave that for later in the term.

Quiz 2.

In 2006, according to the College Board, there was a national pass rate of 59% for high school students taking AP exams. In 2007, Bend – LaPine students took 198 different AP exams, and passed 109 of them. Is there reason to believe that the pass rate for AP exams in the Bend – LaPine school district is ***lower*** than the national pass rate of 59%?

Quiz 3.

From the CDC...In order for a flu vaccine to be "effective enough", if must be shown to produce antibodies in at least 70% of its recipients. As we all know now, there wasn't enough H1N1 flu vaccine to go around in 2009. In a study in England, some clever scientists wanted to see if a *diluted* version of the H1N1 vaccine produced enough antibodies to protect against infection. The study included 175 people, 140 of whom developed enough antibodies. Is this significant evidence to conclude that the 70% minimum antibody level had been exceeded?