SEC/SER, HW ON TESTING HYPO, STAT319, NAME: DUE: SAT, 8 DEC, 2012

G.1 (SAB) A one-gallon can of paint coverage has a normal distribution with a mean of μ square feet with a standard deviation of 30 square feet. Nine one-gallon cans of paints covered an average of 526.45 square feet with standard deviation of s square feet.

a. Test the hypothesis that the mean coverage is more than 510 square feet.
b. What is the probability value of the test in part (a).

G.2 (LAL) A one-gallon can of paint covers on the average μ square feet with a standard deviation of 30 square feet. Forty one-gallon cans of paints can covered an average of 526.45 square feet with standard deviation of s square feet. Test the hypothesis that the mean coverage is more than 510 square feet.

G.3 (GOL) Forty one-gallon cans of paints can covered an average of 526.45 square feet with standard deviation of 15 square feet. Test the hypothesis that the mean coverage is more than 510 square feet.

G.4 (BAD) A one-gallon can of paint coverage has a normal distribution with an average μ square feet with a standard deviation of σ square feet. Nine one-gallon cans of paints covered an average of 510 square feet with standard deviation of 15 square feet.

a. Test the hypothesis that the mean coverage is more than 510 square feet.
b. Determine a bound for the probability value of the test in part (a).

G.5 To test the claim that the resistance of electric wire can be reduced by more than 0.05 ohm by alloying, 30 values obtained for standard wire yielded a mean of 0.135 oh, and standard deviation 0.005 ohm, and 35 values obtained for alloyed wire yielded a mean of 0.085 ohm and standard deviation 0.007 ohm.

a. (GOL) At 5% level of significance, does the sample info support the claim?
b. (BAD) Suppose that the resistance of electric wire really follow normal distribution, perform an exact test for the claim at 5% level of significance.