Quiz 5 for Statistics 301
Elementary Statistical Methods - Spring 2000
Material Covered: Chapter 8 of Workbook and text
For: Friday, 31st March

Name (please print): _____.
last first

How much does a sleeping bag cost? Assume the random selection of prices below follow a normal distribution.

80, 90, 100, 120, 75, 37
105, 95, 105, 60, 110, 120

(a) [2] Match the statistical terms with the various items in this example.

terms	sleeping bags example
(a) population	**(a)** twelve sleeping bag prices
(b) sample	**(b)** all sleeping bag prices
(c) statistic	**(c)** average price of twelve sleeping bags
(d) parameter	**(d)** average price of all sleeping bags

terms	(a)	(b)	(c)	(d)
sleeping bags example				

(b) [1] The appropriate distribution to use in this example is a t distribution with (circle one) **10** / **11** / **12** / **13** / **14** degrees of freedom.

(c) [1] The 13th percentile of the t distribution used in this example

is _____.

(d) [1] The 95% confidence interval for the average sleeping bag price

is _____.

(e) [1] If $n = \left(\frac{t_{\alpha/2,n-1}s}{E}\right)^2$, where $E = 5$, then, in this case,

$n =$ _____.

(a) [2] Match

terms	(a)	(b)	(c)	(d)
sleeping bags example	(b)	(a)	(c)	(d)

(b) [1] **11**

(c) [1] **-1.188** (using the INVT program)

(d) [1] **$(75.6, 107.2)$** (using TInterval on the calculator)

(e) [1] **35**; since $n = \left(\frac{t_{\alpha/2,n-1}s}{E}\right)^2 = \left(\frac{-1.188(24.835)}{5}\right)^2$