ID: 030

1. An experiment has $n_1 = 6$ plants in the treatment group and $n_2 = 6$ plants in the control group. After some time, the plants' heights (in cm) are measured, resulting in the following data:

	value1	value2	value3	value4	value5	value6
sample 1:		1.03	1.12	1.02	1.3	1.02
sample 2:		1.34	1.19	1.13	1.22	1.22

- (a) Determine degrees of freedom.
- (b) Determine t^* for a 98% confidence interval.
- (c) Determine SE.
- (d) Determine a lower bound of the 98% confidence interval of $\mu_2 \mu_1$.
- (e) Determine an upper bound of the 98% confidence interval of $\mu_2 \mu_1$.
- (f) Determine $|t_{\rm obs}|$ under the null hypothesis $\mu_2 \mu_1 = 0$.
- (g) Determine a lower bound of the two-tail *p*-value.
- (h) Determine an upper bound of two-tail p-value.
- (i) Do you reject the null hypothesis with a two-tail test using a significance level α = 0.02? (yes or no)

۱.	(a)
	(b)
	(c) .
	(d) .
	(e) .
	(f) .
	(g)
	(h) .
	(i)