**ID: 013** 

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1. An experiment has  $n_1 = 5$  plants in the treatment group and  $n_2 = 3$  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
sample 1: sample 2:	9 18.4	14.7 17.9	8.3 15.4	11.4	8.5

- (a) Determine degrees of freedom.
- (b) Determine  $t^*$  for a 96% confidence interval.
- (c) Determine SE.
- (d) Determine a lower bound of the 96% confidence interval of  $\mu_2 \mu_1$ .
- (e) Determine an upper bound of the 96% 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  $\alpha$  = 0.04? (yes or no)

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