

Name: \_\_\_\_\_

1. An experiment has  $n_1 = 6$  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	value6
sample 1:	215	232	210	204	217	215
sample 2:	76	104	92			

- (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  $|t_{\text{obs}}|$  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  $\alpha = 0.02$ ? (yes or no)

1. (a)

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(b)

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(c)

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(d)

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(e)

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(f)

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(g)

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(h)

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(i)