

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

1. An experiment has  $n_1 = 7$  plants in the treatment group and  $n_2 = 4$  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	value7
sample 1:	128	130	157	122	100	160	112
sample 2:	100	91	111	95			

- Determine degrees of freedom.
- Determine  $t^*$  for a 96% confidence interval.
- Determine  $SE$ .
- Determine a lower bound of the 96% confidence interval of  $\mu_2 - \mu_1$ .
- Determine an upper bound of the 96% confidence interval of  $\mu_2 - \mu_1$ .
- Determine  $|t_{\text{obs}}|$  under the null hypothesis  $\mu_2 - \mu_1 = 0$ .
- Determine a lower bound of the two-tail  $p$ -value.
- Determine an upper bound of two-tail  $p$ -value.
- Do you reject the null hypothesis with a two-tail test using a significance level  $\alpha = 0.04$ ? (yes or no)

1. (a)       .

(b)       .

(c)       .

(d)       .

(e)       .

(f)       .

(g)       .

(h)       .

(i)