

Self-Check 12.3, 12.5, 13.1, 13.2, 13.3, 11.3

Name: _____ Date: _____ Row: _____

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1. Find the regression line and the best predicted cost of a ticket purchased one day in advance, given that the cost of the ticket is \$300 if purchased 30 days in advance.

30 Days	244	260	264	264	278	318	280
One Day	456	614	567	943	628	1088	536

1. Calculator work
 2. Find a, b
 3. Find the regression line
 4. Find Critical Value and compare with r and state conclusion about linear correlation
 5. Find the best predicted cost of a ticket purchased one day in advance, given that the cost of the ticket is \$300 if purchased 30 days in advance.
2. As part of an experiment to see how different types of soil cover would affect slicing tomato production, Marist College students grew tomato plants under different soil cover conditions. Groups of three plants each had one of the following treatments:
- bare soil
 - a commercial ground cover
 - black plastic
 - straw
 - compost

All plants grew under the same conditions and were the same variety. Students recorded the weight (in grams) of tomatoes produced by each of the $n = 15$ plants:

Bare	Ground Cover	Plastic	Straw	Compost
2625	5348	6583	7285	6277
2997	5682	8560	6897	7818
4915	5482	3830	9230	8677

1. Null and Alternative Hypothesis
 2. Calculator Work
 3. Test Statistic and P-Value
 4. Conclusion about the null hypothesis
 5. Final conclusion that addresses the original claim
3. The Bureau of Labor Statistics gathers data about employment in the United States. A sample is taken to calculate the number of U.S. citizens working in one of several industry sectors over time. The table below shows the results:

Industry Sector	2000	2010	2020
Non-agriculture wage and salary	13,243	13,044	15,018
Goods-producing, excluding agriculture	2,457	1,771	1,950
Services-providing	10,786	11,273	13,068

Agriculture, forestry, fishing, and hunting	240	214	201
Non-agriculture self-employed and unpaid family worker	931	894	972
Secondary wage and salary jobs in agriculture and private household industries	14	11	11
Secondary jobs as a self-employed or unpaid family worker	196	144	152

We want to know if the change in the number of jobs is independent of the change in years. Test at a 5% significance level.

1. Null and Alternative Hypothesis
2. Calculator Work
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