

MAT1080 Worksheet #8

NAME: _____

See Worksheet 8 Examples for examples of solving these problems.

Problem 1 Do a full hypothesis test using the P-Value Method and clearly show all eight steps given in the book. Do a calculation of the test statistic manually (and show work). Verify the test statistic and calculate P with technology.

A used car dealer says that the mean price of a two-year-old sedan is more than \$20,500. You suspect this claim is incorrect and find that a random sample of 14 similar vehicles has a mean price of \$21,150 and a standard deviation of \$1084. Is there enough evidence to reject the dealer's claim at $\alpha = 0.05$? Assume the population is normally distributed.

Problem 2. Do a full hypothesis test using the P-Value Method and clearly show all eight steps given in the book. Do a calculation of the test statistic t manually (and show work) to verify the value found with technology. Otherwise use technology to find r , t , and P .

The weights (in pounds) of eight vehicles and the variabilities of their braking distances (in feet) when stopping on a wet surface are shown in the table.

Weight(pounds), x	5890	5340	6500	4800	5940	5600	5100	5850
Variability(feetx1000), y	2920	2400	4090	1720	2880	2530	2320	2780

At $\alpha = .05$, is there enough evidence to conclude that there is a significant linear correlation between vehicle weight and variability in braking distance on a wet surface?

NOTE: If your technology gives you slope and y-intercept of the best fit line along with r , t , and P , note them for problem #3.

Problem 3

What is the equation of the best-fit line for the data in problem 2?