

NAME \_\_\_\_\_

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**MATH 156.3 — QUIZ VI**

Here are some data on the fuel consumption of a certain car at different speeds (speed in 10s of kilometers per hour, fuel consumption in liters per 100 kilometers):

Speed:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Fuel:	21	13	10	8	7	6	6	7	8	8	9	10	11	12	13

- (a) Make a (rough) scatterplot of these data. Describe the association you see (give form, strength, and direction, as always).
- (b) Compute (and write down here) the equation of the least squares regression line.
- (c) Sketch that regression line on top of your scatterplot.
- (d) Make a rough scatterplot of the residuals for your regression.
- (e) What does the pattern of your residual plot tell you? Does the value of the correlation coefficient  $r$  (what is that value?) agree with your conclusion?