

Homework 8

Name _____

1. In the Mark Twain excerpt (end of section 8.4), what is the slope?
2. For each of the following situations, decide if the correlation would be positive or negative:
 - a.) Daily temperature in Fort Collins and daily temperature in Denver
 - b.) Vehicle weight and gas mileage
 - c.) Number of drinks ordered and percent tip left at a restaurant

3. The following are the winning times for the women's 100m freestyle swimming:

Year	Time	Winner
1912	82.2	Fanny Durack, AUS
1920	73.6	Ethelda Bleibtrey, USA
1924	72.4	Ethel Lackie, USA
1928	71.0	Albina Osipowich, USA
1932	66.8	Helene Madison, USA
1936	65.8	Rie Mastenbroek, NED
1948	66.3	Greta Andersen, DEN
1952	66.8	Katalin Szöke, HUN
1956	62.0	Dawn Fraser, AUS
1960	61.2	Dawn Fraser, AUS
1964	59.5	Dawn Fraser, AUS
1968	60.0	Jan Henne, USA
1972	58.59	Sandra Neilson, USA
1976	55.65	Kornelia Ender, E. Ger
1980	54.79	Barbara Krause, E. Ger
1984	55.92	(TIE) Nancy Hogshead, USA & Carrie Steinseifer, USA
1988	54.93	Kristin Otto, E. Ger
1992	54.65	Zhuang Yong, CHN
1996	54.50	Le Jingyi, CHN
2000	53.83	Inge de Bruijn, NED

<http://www.infoplease.com/ipsa/A0114994.html>

- a.) Copy the first two columns into Excel and find the function that predicts the winning time from the year. Write that function here:
- b.) Interpret the slope in terms of this example.
- c.) What is the correlation coefficient?
- d.) Approximately what percentage of variation in winning times is accounted for by having the year in the regression model?
- e.) Predict the winning time for the 2004 Olympics from the regression model.