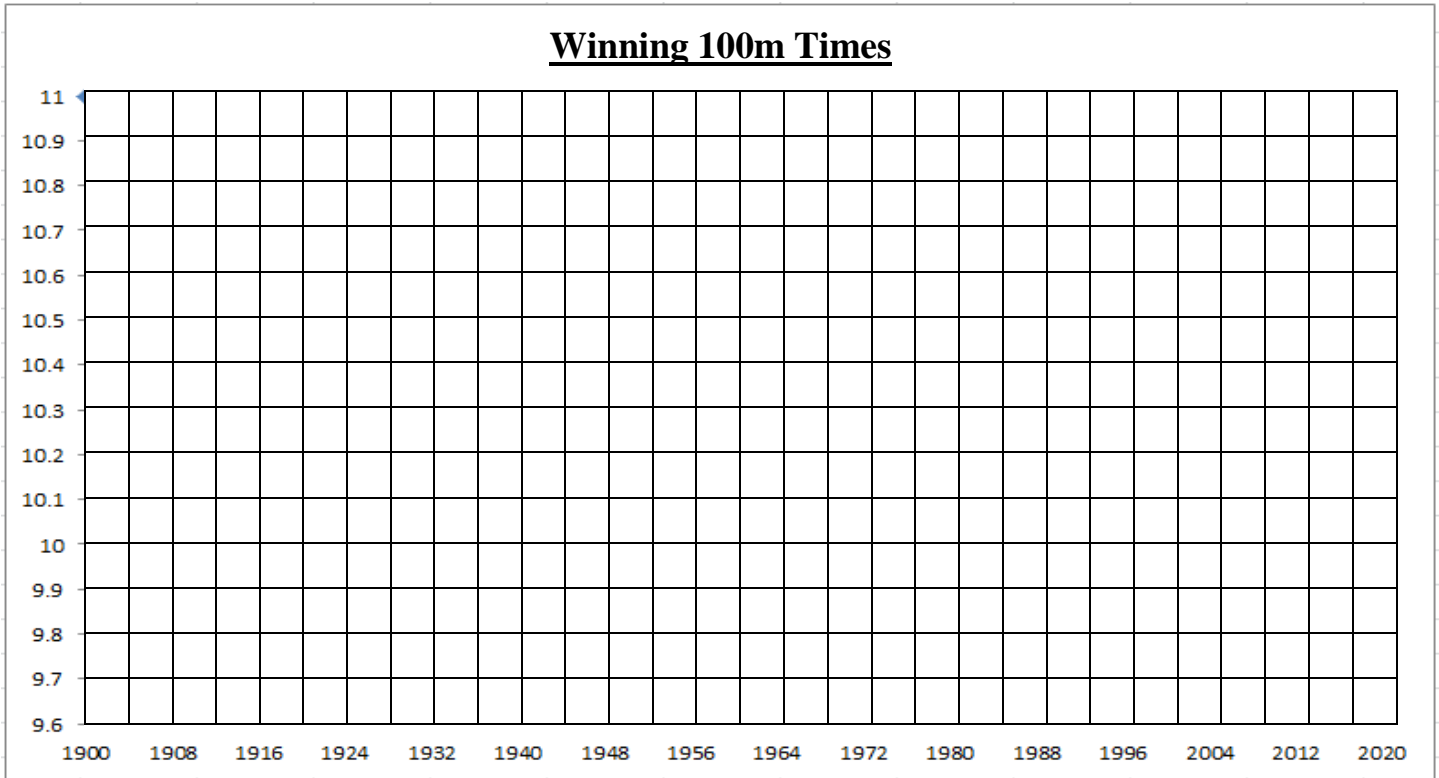# Scatter Plot – 100M Olympic Times   Name: _____

Winning 100m Times

Questions:

1) Plot the times for each Olympic games. (Be careful: some years were skipped because of wars!)

Year	1900	1904	1908	1912	1920	1924	1928	1932	1936	1948	1952	1956	1960	1964	1968	1972	1976	1980	1984	1988	1992	1996	2000	2004	2008
Time (s)	11	11	10.8	10.8	10.8	10.6	10.8	10.3	10.3	10.3	10.4	10.5	10.2	10	9.95	10.14	10.06	10.25	9.99	9.92	9.96	9.84	9.87	9.85	9.69

2) Is the correlation positive or negative? Why do you think this is?

3) Do you think the correlation is strong, moderate, or weak? Estimate the value of the correlation coefficient r.

4) Draw a line of best fit and find the equation for it (Hint: find two points **on your line**).

5) Use your equation to estimate the winning 100-m time in 2020.

6) Calculate the line of best fit and the correlation coefficient using your calculator.

7) What does the slope mean in terms of your situation? What does the y-intercept mean?

8) Use the line of best fit you found with your calculator to predict the winning 100-m time in 2020.