

92.283 Technology Home work 1, ~~Spring 2015~~ Due February 10, 2015

Name: _____ Section _____

By submitting this home work for grading I am acknowledging that the work was completed by me without discussing or seeking help from others. I understand that any questions I may have must be directed to the course instructor. I further understand if this homework is submitted and it is found that any of the work is not solely my own that I am in violation of the University's Academic Integrity Policy which can result in the disciplinary action outlined in it.

Signature _____ Date _____

Use excel where feasible. For everything else show all you work. All data is contained in the excel file labeled "Data Tech Homework 1 Spring 2015".

1) The data below represents the Vehicle Theft rate in Massachusetts from 1960 – 2009.

Year	Vehicle Theft	Year	Vehicle Theft	Year	Vehicle Theft	Year	Vehicle Theft	Year	Vehicle Theft
1960	211.1	1970	878.1	1980	1051.6	1990	923.6	2000	407.6
1961	271.6	1971	984.9	1981	999.3	1991	918.7	2001	434.7
1962	303.6	1972	972.4	1982	968.6	1992	790.5	2002	414.0
1963	366.0	1973	1109.6	1983	858.9	1993	816.1	2003	397.3
1964	452.1	1974	1365.6	1984	840.0	1994	701.0	2004	343.7
1965	533.5	1975	1571.1	1985	864.8	1995	604.5	2005	294.1
1966	551.8	1976	1312.7	1986	906.5	1996	528.2	2006	279.0
1967	667.4	1977	1140.1	1987	924.2	1997	481.4	2007	232.4
1968	806.6	1978	1095.6	1988	892.5	1998	429.5	2008	195.2
1969	858.8	1979	1144.9	1989	910.7	1999	415.0	2009	178.0

- A) (20 pts) Make a time series plot of the Vehicle Theft rate for Massachusetts and comment on the graph.

- B) (30 pts) Make a Histogram of the data where the classes represent Vehicle Theft rate and the frequency is the number of years that fall into each of the class intervals (hint the year is not used in this plot) and comment on the distribution.

- C) (25 pts) Find the mean, median, Q1, Q3 and the standard deviation of the Massachusetts Vehicle Theft rate.

2) The following table shows the counts for samples of American and East Asian students at a large Midwestern university and the reason they may buy from catalogs. (Data is located in the excel file under the tab named "Shopping".)

Reason	American	Asian
Save Time	29	10
Easy	28	11
Low Price	17	34
Live Far From Stores	11	4
No Pressure to Buy	10	3
Other	20	7

A) (15 pts) For the Asian students make a pie chart of the reason they buy using a catalog.

B) (15 pts) Make a bar chart to show the reason American students buy using a catalog.