

Worksheet II

1. The attendance at NCAA women's basketball games, in thousands, is given in the following table:

Year	1985	1987	1989	1990	1991	1992	1993	1994	2000	2005	2008
Attendance	2072	2156	2502	2777	3013	3397	4193	4557	8825	9940	11160
In thousands											

Source: NCAA, Overland Park, KS.

- Plot the data to get your scatter plot. Does the data have a parabolic shape? Request a quadratic regression. Graph the regression equation.
- Use the model to find the attendance in thousands in 2000. Is this close to the actual attendance?
- If this model is valid, would you expect there to be an x-intercept? Explain.
- Is there a y-intercept for this model? Does the meaning of the y-intercept seem valid? Explain
- Would you expect your model to be valid for 1970? Explain.
- When would you expect the attendance to exceed 15,000,000?

7. The following table gives the estimated breaking distance on dry pavement for a car traveling at the given speeds.

Speed (mph)	25	35	45	55	65
Braking distance (feet)	34.7	68	112.5	168	234.7

Source: Louisiana Drivers Guide classes "D" and "E", LDPSC

- Find the function which best fits the data, based on the types we have studied.
- There is currently a trend to once again raise speed limits on interstate highways. Based on the information above what do you

think about changing speed limits on our highways? Explain your position.

3. The following table gives infant mortality rates per 1,000 by age of mother, US, 2005.

Age	18	22	27	32	37	47
Single births	9.32	7.09	5.13	4.55	5.27	7.16
Multiple births	66.69	40.72	33.31	26.20	22.89	17.45

- a) Make a scatter plot for each set of data.
- b) Use your calculator's feature to get a "best fit" function for each set of data.
- c) What is a reasonable domain for each function?
- d) According to the "best fit" function, what age of the mother has the lowest infant mortality rate? How did you come to this conclusion?
- e) Does the infant mortality rate for multiple births decrease at a constant rate? Increasing rate? Decreasing rate? No particular pattern? Explain.