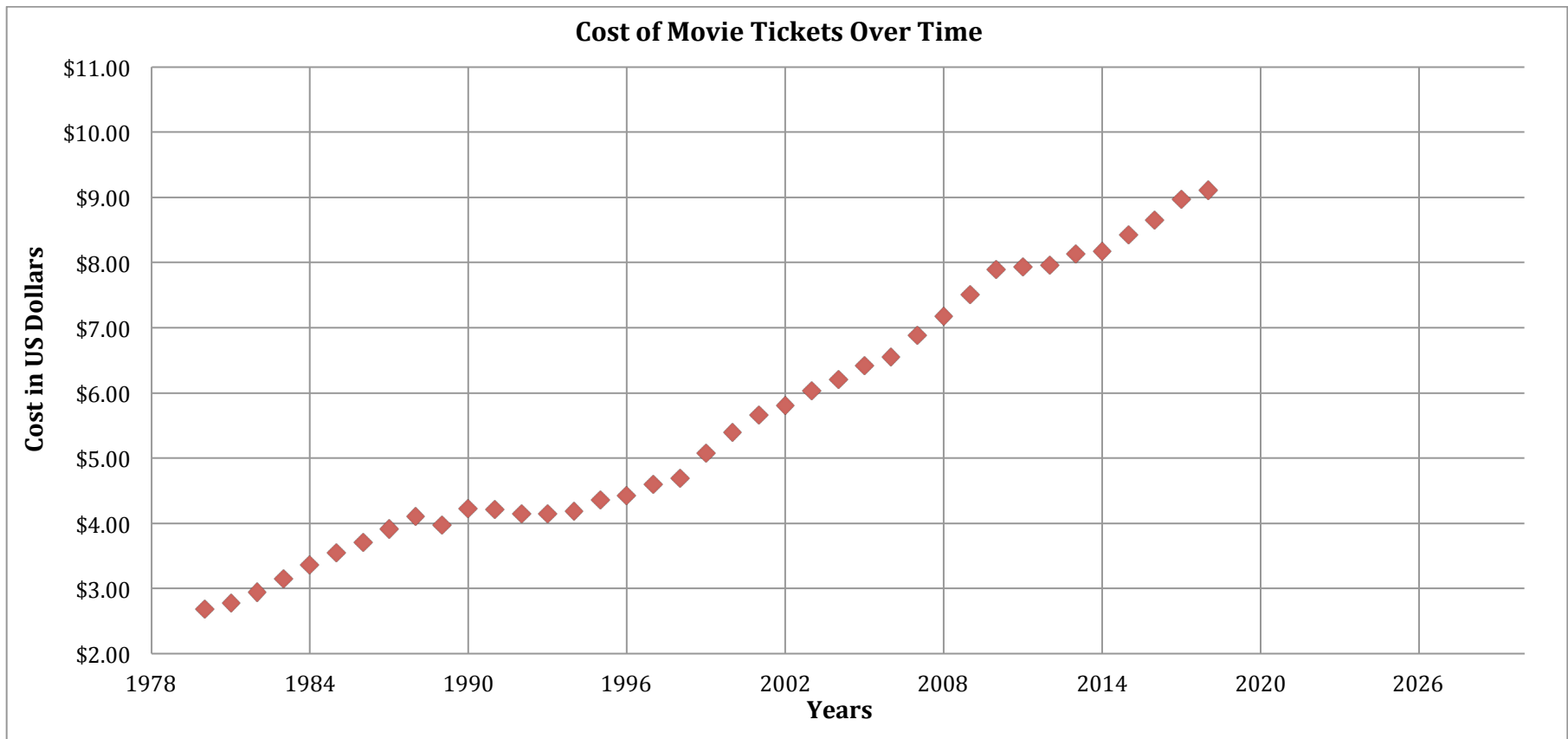


The scatter plot below gives the average cost in U.S. dollars of a movie ticket in U.S. theaters for each year from 1980 to 2018. Use the scatter plot to answer the questions on the following page.



1. It seems like these ticket prices are too cheap. As an adult when I go to the movies it costs me about \$15. Why might the average ticket price be lower than what I typically pay?

Ticket prices could be much cheaper than \$15 in other parts of the country. So, the average of all of the ticket prices would turn out to be less.

Perhaps since it is probably cheaper for kids and senior citizens the average cost of a ticket will be less than what I pay as an adult.

2. How has the cost of a movie ticket changed over the last 30 years? What has been the general trend? How can you tell this from the graph?

In general, the price of a movie ticket has gone up over the years. The graph slopes upward as the years increase.

3. What years did the cost of movie ticket decrease compared to the year before? How can you tell from the graph when the price is decreasing?

From 1988 to 1989 the cost of a ticket decreased. Also from 1991 to 1992 the cost decreased a little. The graph slants a little downward.

4. Were there any time periods where the cost of a movie ticket stayed relatively the same over several years? For what years did the cost stay relatively the same? How can you tell this from the graph?

5. Notice three different periods of relatively consistent ticket price change: The years 1980 – 1988, 1989 – 1993 and 1994 – 2010. Can you find a typical rate of change in the price of a ticket for each of these time periods? Restating that question, on average, by how much did the price of a ticket increase by each year during each of these time periods?

6. Predict the cost of a ticket in the years 2019 - 2025. Plot your predictions and give your actual predictions for each year below. How did you determine how much a ticket would cost each year?

7. What might have been the cost of a ticket during the years 1975 – 1979? Plot your estimates on the grid and give your actual predictions for each year below. How did you determine how much a ticket would cost each year?

8. Can you find a line of best fit to represent the data? Let y = ticket price and x = the number of years since 1980 (1980 is year zero, 1981 is year one). Approximate a line to represent the data, a slope, a y – intercept and equation that models your line of best fit.