

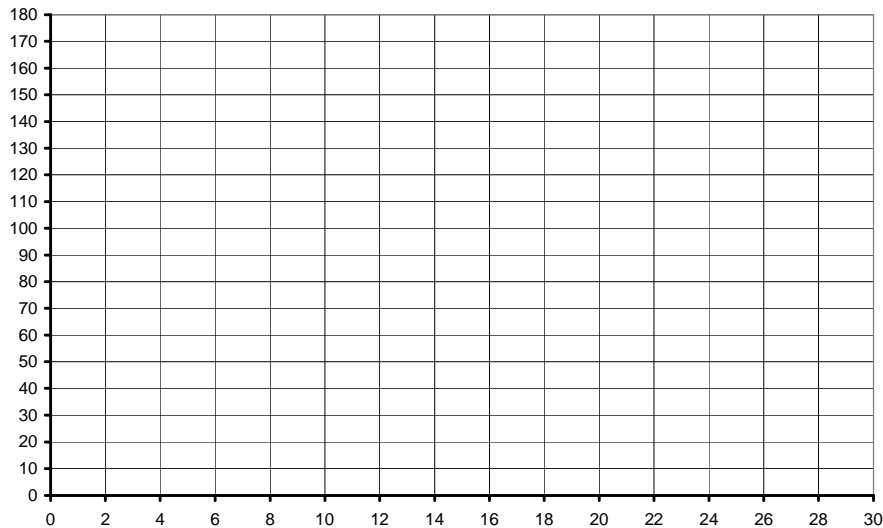
MA 110 WORKSHEET (1.3)

Name _____

Denver is a city that has had a lot of growth and consequently a lot of population change in recent years. Sociologists want to study population change and crime rate.

Population (in thousands)	Crimes (per 1,000 population)
2	35
6	53
7	69
11	132
17	127
29	173

- A. Use the table to form 6 ordered pairs and plot those points on the grid provided. It is fine to round the numbers before you plot them



- B. Use your calculator to find the data plot.
- C. Find the regression line (use your calculator or find the equation using the ordered pairs (2, 35) and (29, 173)). Write your equation here.
- D. Interpret the slope of your linear model.

- E. Use your equation to estimate the crime rate if the population is 20,000.
- F. Use your equation to estimate the crime rate if the population is 32,000.
- G. If you assume that your equation continues to provide an accurate model as the population increases, at what population will the crime rate reach 400?