

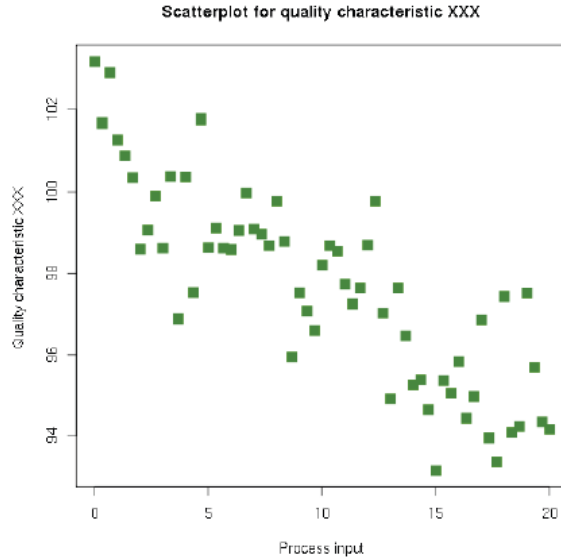
Examine the scatterplot below. Imagine that you drew a straight line through the general pattern of the points, keeping as close as possible to all points with as many points above the line as below.

1. Predict a possible y-intercept and slope for that line.

a. y-intercept: _____

b. slope: _____

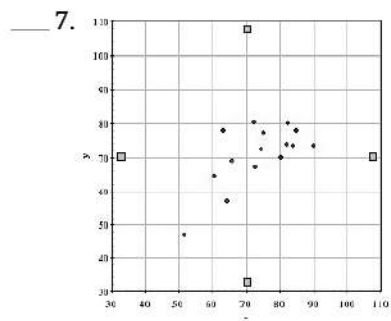
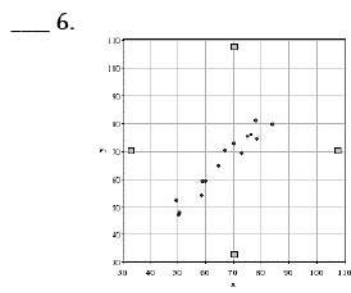
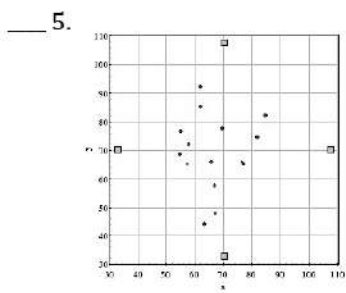
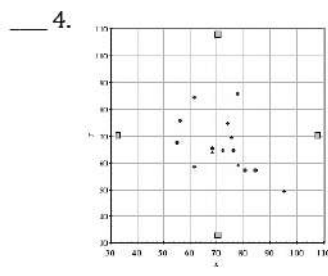
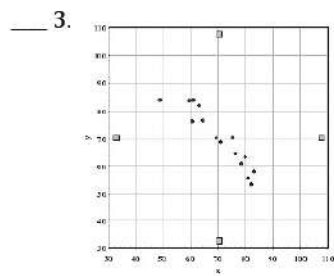
2. Sketch the line that you imagined for question #1 and write an equation for that line.



Set

Topic: Estimating the correlation coefficient

Match the scatterplot with its correlation coefficient.



Possible
Correlation Coefficients

a. 0.05

b. 0.97

c. -0.94

d. -0.49

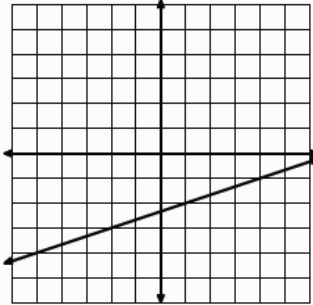
e. 0.68

Go

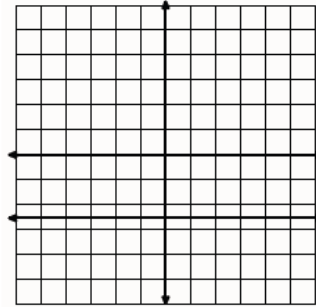
Topic: Visually comparing slopes of lines

Follow the prompt to sketch the graph of a line on the same grid with the given characteristics.

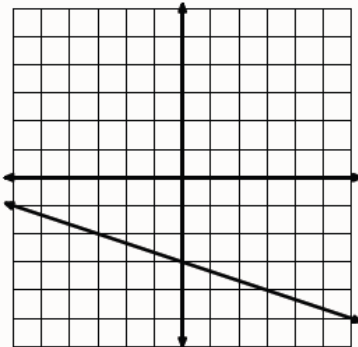
8. A larger slope



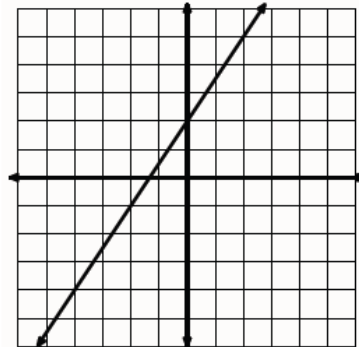
9. A smaller slope



10. A larger y-intercept and a smaller slope



11. Slope is the negative reciprocal



8.6 Making More \$

A Solidify Understanding Task



Each year the U.S. Census Bureau provides income statistics for the United States. In the years from 1990 to 2005, they provided the data in the tables below. (All dollar amounts have been adjusted for the rate of inflation so that they are comparable from year-to-year.)

Year	Median Income for All Men
2005	41196
2004	41464
2003	40987
2002	40595
2001	41280
2000	41996
1999	42580
1998	42240
1997	40406
1996	38894
1995	38607
1994	38215
1993	37712
1992	37528
1991	38145

Data for Men

1. Use your calculator to create a scatterplot of the data for **men**.
2. Estimate the correlation coefficient, r , by looking at your graph.
3. Now, use your calculator to calculate the actual correlation coefficient, r , and the line of best fit.
4. What does the value of r tell you about the years and the median income for men.
5. Interpret the slope in the context of the situation.
6. Interpret the y -intercept in the context of the situation.

Data for Women

Year	Median Income for All Women
2005	23970
2004	23989
2003	24065
2002	23710
2001	23564
2000	23551
1999	22977
1998	22403
1997	21759
1996	20957
1995	20253
1994	19158
1993	18751
1992	18725
1991	18649

1. Use your calculator to create a scatterplot of the data for **women**.
2. Estimate the correlation coefficient, r , by looking at your graph.
3. Now, use your calculator to calculate the actual correlation coefficient, r , and the line of best fit.
4. What does the value of r tell you about the years and the median income for women.
5. Interpret the slope in the context of the situation.
6. Interpret the y -intercept in the context of the situation.

Comparing the Data

1. Compare the correlation coefficient, r , found in the data for men and women. Explain what it tells you.
2. Compare the slopes, found in the data for men and women. Explain what it tells you.
3. Compare the y -intercepts, found in the data for men and women. Explain what it tells you.