

Precalc 14.1

Draw, analyze, and use bar graphs and histograms
Organize data into a frequency distribution table

line plot



bar graph categories 1 2 3 4

histogram numerical

- back to back bar graph

frequency distribution

range

class interval (5-8) use friendly numbers

class limits

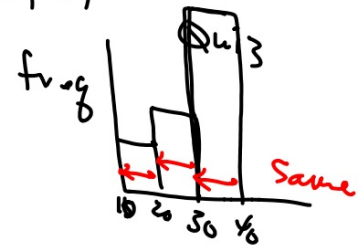
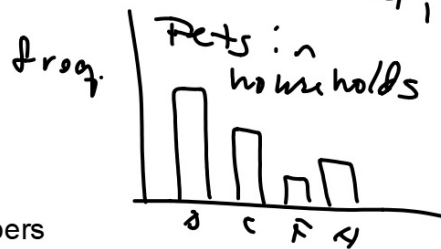
class marks

histogram

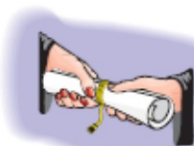
frequency polygon

activity: senior and junior birthdays

3, 2, 1, 0, 3, 3, 2,
4, 0, 0, 1



1 ECONOMICS The following data relates the amount of education with the median weekly earnings of a full-time worker 25 years old or older for the years 1980 and 1997.

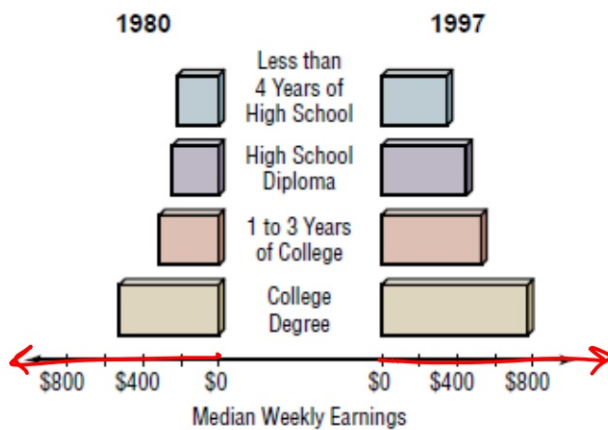


Median Weekly Earnings

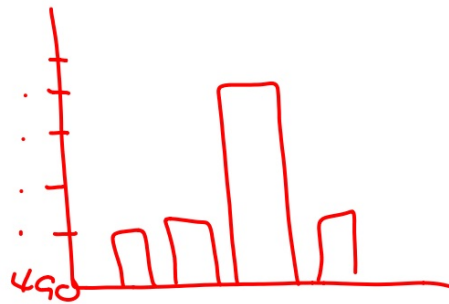
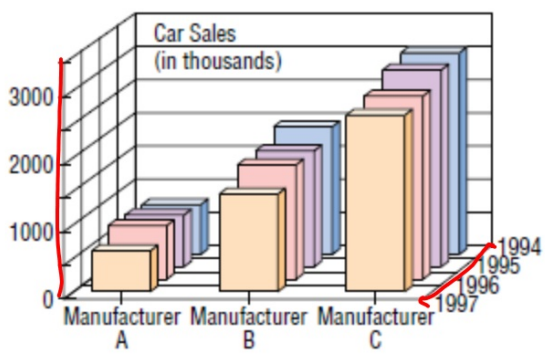
	Less than 4 Years of High School	High School Diploma	1 to 3 Years of College	College Degree
1980	\$222	\$266	\$304	\$376
1997	\$321	\$461	\$518	\$779

Source: *The Wall Street Journal 1999 Almanac*

Back to back bar graph: compare across years, compare different ed levels



Compare by manufacturer
Compare by year
Compare by sales



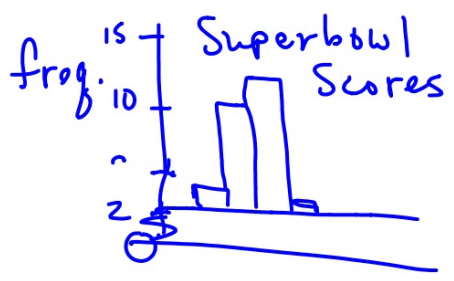
2

FOOTBALL The winning scores for the first 34 Super Bowls are 35, 33, 16, 23, 16, 24, 14, 24, 16, 21, 32, 27, 35, 31, 27, 26, 27, 38, 38, 46, 39, 42, 20, 55, 20, 37, 52, 30, 49, 27, 35, 31, 34, and 23.

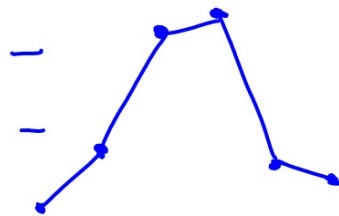
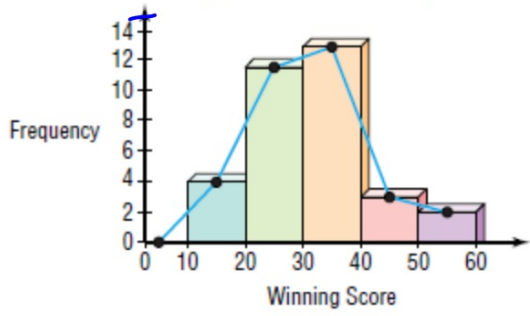
- a. Find the range of the data. $55 - 14 = 41$
- b. Determine an appropriate class interval. 10 CM
- c. Find the class marks.
- d. Construct a frequency distribution of the data.
- e. Draw a histogram of the data.
- f. What conclusions can you determine from the graph?

5-8 intervals
Use friendly numbers
 $a \leq n < b$

5	0-10	
15	10-20	
25	20-30	
35	30-40	
45	40-50	
45	50-60	



Winning Scores at the Super Bowl



histogram
frequency polygon

95

3 HEALTH A graduate student researching the effect of smoking on blood pressure collected the following readings of systolic blood pressure from 30 people within a control group.

125, 145, 110, 126, 128, 180, 177, 176, 156, 144, 182, 205, 191, 140, 138, 126, 154, 163, 172, 159, 174, 151, 142, 160, 147, 143, 158, 129, 132, 137

- Find an appropriate class interval. Then name the class limits and the class marks.
- Construct a frequency distribution.
- Use a graphing calculator to draw a frequency polygon.

5-8 intervals
Use friendly numbers

cm

100	90-110
120	110-130
140	130-150
160	150-170
180	170-190
200	190-210

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3.6