

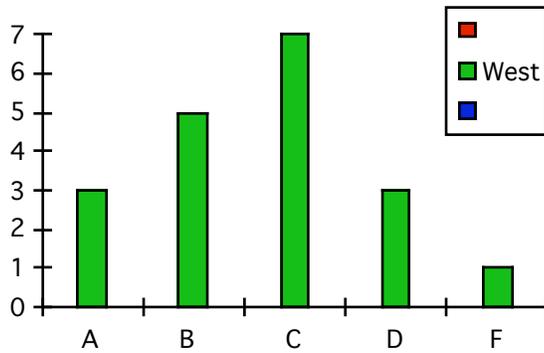
## STATISTICS

Students should be able to:

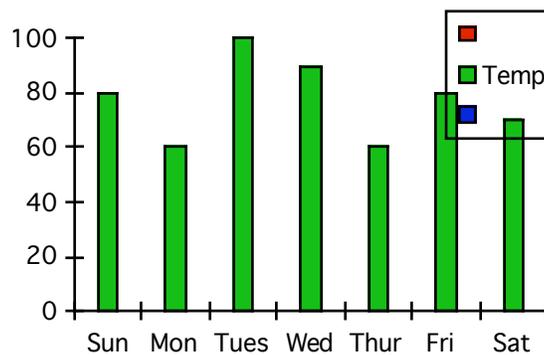
- \* find the mean, median, mode, and range given raw data
- \* find a missing score given other scores and the mean
- \* find the mean, median, mode and range using bar, line, and frequency graphs
- \* find the measure of the central angle given data for a circle graph
- Construct a bar, line, frequency, and pie charts

### Problem set

1. Bob bowled three games, his scores were 82, 85, and 88. Find his mean average.
2. Ted's scores on his tests were 62, 87, 75, 72, and 62. Find the mean, median, mode, and range.
3. A student has average score of 81 on three tests, if the student scored an 84 on the first two tests, what was the score on the third test?
4. Find the average rainfall per month if it rained 2.18 inches in June, 4.07 inches in July, 5.2 inches in August, and 1.07 inches in September.
5. Bill scored 7, 12, 15, and 5 points in four basketball games. How many points must she score in the next game to have an average of 12 points per game?
6. The average income for 5 people is \$150,000 per year. Four of the people earn \$50,000, how much does the fifth person earn?
7. Find the median of the following list.  
7, 12, 8, 9, 10, 4, 15, 17, 20
8. John's average on his first four tests is 88. To earn an A, he must have an average of at least 90, what is the lowest grade he can make on his next test to earn an A?
9. Find the median and mode.



10. Find the average temperature (mean). For what days was the temperature below average? What was the range of the temperatures?



11. Each month the Smith family uses its income in the following way: 30% for food, 25% for rent, 20% for transportation, 10% for savings, 5% for entertainment, and 10% for other expenses. Construct a pie chart representing this information.
12. Each dollar the government obtains in taxes is spent in the following manner: 25¢ for defense, 30¢ for social security, 10¢ for subsidies, 15¢ for salaries and 20¢ on social programs. Construct a circle graph representing this data.
13. There are 2000 students attending a certain high school. There are 400 seniors, 300 juniors, 500 sophomores, 600 freshmen, and 200 5th year students. Construct a circle graph showing this information.

14. The heights of 40 students in inches are given as follows:

62, 65, 54, 55, 50, 73, 73, 57, 64, 52, 62, 61, 53, 68, 64, 70, 66, 71, 63, 54

64, 66, 56, 57, 63, 68, 53, 64, 68, 58, 66, 58, 58, 56, 64, 53, 67, 67, 70, 62

Construct a grouped frequency distribution for the following intervals: 75-72, 71-69, 68-66, etc. Find the median, mode, and range of the heights.

15. The following table contains the number of accidents last week. Find the mean, median, mode, and range for the number of accidents.

Monday	10
Tuesday	12
Wednesday	8
Thursday	15
Friday	8
Saturday	9
Sunday	8

16. Use the following table to find the mean, median, mode, and range for teenagers' heights.

Height	# of people	Height	# of people
72	2	64	6
70	1	62	7
68	2	60	5
66	5	58	2

How many students have above average height?

17. The grade distribution for the final exam in math is as follows:

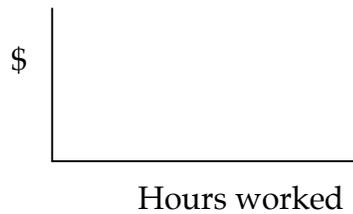
Grade	Frequency
A	4
B	10
C	37
D	8
F	1

Find the median.

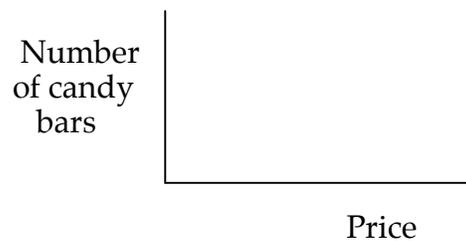
18. In the data in the table were represented in a circle graph, find the measure of the central angle used to describe the tip.

Lunch	Cost
Sandwich	\$5.00
Drink	\$1.00
Dessert	\$3.00
Tip	\$1.00

19. Draw a line graph to show the relationship between the number of hours worked and the amount of money earned.



19. A merchant found that as the price of candy bars increased, the number of sales decreased. Sketch a line graph to show that relationship.



20. You contract with your neighbor to cut and trim his lawn for a fixed fee, construct a line graph to show this relationship.

