You have all calculated the mean, median, and mode of many data sets over the years, but have you ever thought of what these values really can tell you?

Review:
meAn is the Average. To calculate it you must add all the values and divide the sum by the number of values you added.

MedIan is the MIddle number. To find this value you must line all the values up from smallest to largest and find the number in the middle or the average of the two middle numbers.

MOde is the number(s) used MOst often. To find this value you just count up how many times each number shows up in the data set and find the one (or many) numbers that occurred the most often. If all the values just show up once, there is no mode.

A **resistant measure** doesn't move much even if you add really large or really small numbers to the data set.

A **non-resistant measure** will change a lot if you add a large or small number to a data set.

For the following data set, find the mean, median, and mode for 2002 and 2003.

Date	Race Name	Track	2002 Caution Laps	2003 Caution Laps
2/16/03	Daytona 500	Daytona International Speedway	38	23
2/23/03	Subway 400	North Carolina Speedway	57	46
3/2/03	UAW-Daimler Chyrsler 400	Las Vegas Motor Speedway	25	30
3/9/03	Bass Pro Shops MBNA 500	Atlanta Motor Speedway	37	34
3/16/03	Carolina Dodge Dealers 400	Darlington Raceway	40	33
3/23/03	Food City 500	Bristol Motor Speedway	101	121
3/30/03	Samsung/Radioshack 500	Texas Motor Speedway	41	52
4/6/03	Aaron's 499	Talladega Superspeedway	19	32
4/13/03	Virginia 500	Martinsville Speedway	104	64
4/27/03	Auto Club 500	California Speedway	24	34
5/3/03	Pontiac Excitement 400	Richmond International Raceway	103	91
5/25/03	Coca-Cola 600	Lowe's Motor Speedway	48	46
6/1/03	MBNA Armed Forces Family 400	Dover International Speedway	40	68
6/8/03	Pocono 500	Pocono Raceway	17	25
6/15/03	Sirius 400	Michigan International Speedway	16	41
6/22/03	Dodge/Save Mart 350	Infineon Raceway	9	16
7/5/03	Pepsi 400	Daytona International Speedway	39	10
7/13/03	Tropicana 400	Chicagoland Speedway	35	36

7/20/03	New England 300	New Hampshire International Speedway	77	63
7/27/03	Pennsylvania 500	Pocono Raceway	29	36
8/3/03	Brickyard 400	Indianapolis Motor Speedway	36	25
8/10/03	Sirius at the Glen	Watkins Glen International	18	14
8/17/03	GFS Marketplace 400	Michigan International Speedway	30	46
8/23/03	Sharpie 500	Bristol Motor Speedway	118	119
8/31/03	Mountain Dew Southern 500	Darlington Raceway	63	55
9/6/03	Chevy Rock & Roll 400	Richmond International Raceway	65	76
9/14/03	Sylvania 300	New Hampshire International Speedway	24	38
9/21/03	MBNA America 400	Dover International Speedway	37	63
9/28/03	EA Sports Thunder 500	Talladega Superspeedway	0	23
10/5/03	Banquet 400	Kansas Speedway	52	47
10/11/03	UAW-GM Quality 500	Lowe's Motor Speedway	33	31
10/19/03	Subway 500	Martinsville Speedway	65	119
10/27/03	Bass Pro Shops MBNA 500	Atlanta Motor Speedway	50	63
11/2/03	Checker Auto Parts 500	Phoenix International Raceway	18	66
11/9/03	Pop Secret Microwave Popcorn 400	North Carolina Speedway	22	65
11/16/03	Ford 400	Homestead-Miami Speedway	41	60

2002: mean =   median =   mode =

2003: mean =   median =   mode =

Do you notice any differences from 2002 to 2003? Explain.

Which racetrack seems to be the most dangerous? How did you decide?

Find the mean, median, and mode of the following data set (round to the nearest dollar).

Job	Net Monthly Income
General Physician average salary	$ 8,189
AirlinePilot average salary	$ 7,877
Dentist average salary	$ 6,164
Engineer average salary	$ 4,710
Professor average salary	$ 4,638
Computer Programmer average salary	$ 4,141
Teacher average salary	$ 4,055
Physiotherapist average salary	$ 3,434
Accountant average salary	$ 3,370
Professional Nurse average salary	$ 3,168
Flight Attendant average salary	$ 2,949
Firefighter average salary	$ 2,729
Miner average salary	$ 2,638
Postman average salary	$ 2,638
Car Mechanic average salary	$ 2,526
Carpenter average salary	$ 2,460
Auxiliary Nurse average salary	$ 2,268
Office Clerk average salary	$ 1,921
Salesperson average salary	$ 1,876
Total	

Mean: Median: Mode:

Subtract the salary for the general physician and recalculate the mean, median, and mode (remember to change the number you divide by as well).

Mean: Median: Mode:

Which value changed the most?

Player	Salary (US$)
1. Alex Rodriguez	28,000,000
2. Jason Giambi	23,428,571
3. Derek Jeter	21,600,000
4 a. Andy Pettitte	16,000,000
4 b. Bobby Abreu	16,000,000
6. Mariano Rivera	15,000,000
7. Johnny Damon	13,000,000
8. Ivan Rodriguez	12,379,883
9. Mike Mussina	11,071,029
10. Carl Pavano	11,000,000
11. Xavier Nady	3,350,000
12. Robinson Cano	3,000,000
13. Damaso Marte	2,150,000
14. Jose Molina	1,875,000
15. Wilson Betemit	1,165,000
16. Brian Bruney	725,000
17. Melky Cabrera	461,200
18. Phil Hughes	406,350
19. Shelley Duncan	398,300
20. Ian Kennedy	394,275
21 a. Humberto Sanchez	390,000
21 b. Joba Chamberlain	390,000
Total Team Salary:	**207,108,489**

Find the mean of the Yankees team salaries from 2008.

Find the median salary from 2008 for the Yankees.

Find the mode salary (if there is one) from 2008 for the Yankees.

Let's look at what the mean and median values can tell us about our data set.

If the mean and median are equal or very close then we can say that the data set is symmetric.

If the mean is significantly less than the median then we can say that the data set is skewed left.

If the mean is significantly more than the median then we can say that the data set is skewed right.

What can we say about the baseball data knowing this information?

Take out the top three salaries and recalculate the mean median and mode.

Mean: Median: Mode:

Which value changed the most?

A **resistant measure** doesn't move much even if you add really large or really small numbers to the data set.
A **non-resistant measure** will change a lot if you add a large or small number to a data set.

Which of the three measures seem resistant?

Which of the three measures seem non-resistant?