All-Time Winning Pitchers (Active)

The *earned run average* (ERA) is one measure of pitching ability.

Directions: Enter the statistics into a spreadsheet and use the Formula Bar to determine the ERAs for the active all-time leading pitchers. Then, create a bar graph to compare the pitchers.

To compute a pitcher's ERA, multiply the number of earned runs by nine innings, and then divide that product by the number of innings pitched:

ERA = 9*Earned Runs/Innings Pitched

Complete the following steps to use the Formula Bar in the spreadsheet software to compute the ERA:

1. Click in the first cell in the ERA column, and then type an equal sign (**=**) in the Formula Bar to begin the formula.
2. After the equal sign, type **9**, type asterisk (*****), click the first row's **Earned Runs** cell, type a forward slash (***/***), and click first row's **Innings Pitched** cell. The formula in the Formula Bar should look similar to **=9*F2/E2**.
3. Press **Enter** to calculate and display the ERA in the first cell of the ERA column.
4. Repeat Steps 1 through 3 for all cells in the ERA column, or copy and past the formula into the ERA column's cells.

After you calculate the ERA, create a scatter plot to compare the pitchers' ERAs.

Pitcher	Team	Wins	Losses	Innings Pitched	Earned Runs	ERA	Strike Outs
Greg Maddux	Los Angeles	333	203	4616	1574		3169
Kenny Rogers	Detroit	207	139	3066	1427		1850
Roger Clemens	Houston	348	178	4817	1661		4604
Randy Johnson	New York	280	147	3798	1357		4544
Tom Glavine	New York	290	191	4149	1596		2481
Mike Mussina	New York	239	134	3210	1296		2572
David Wells	Boston	230	148	3281	1483		2119
Jamie Moyer	Philadelphia	216	166	3351	1551		1992
John Smoltz	Atlanta	193	137	3161	1150		2778
Curt Schilling	Boston	207	138	3110	1188		3015

Use the data and your graph to answer the following:

1. Who is currently the best pitcher? Why?
2. What factors should be taken into account when determining the best pitcher?
3. How is the ERA an "average"?

Copyright © 2010 Intel Corporation. All rights reserved. Adapted with permission. Intel, the Intel logo and the Intel Education Initiative are trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries.
*Other names and brands may be claimed as the property of others.