



Statistics in Sport: Cricket

South African Statistical Association Education Committee



South African Statistical Association

Introduction

In cricket descriptive statistics are used to describe performance of players and/or teams. Other techniques and models can be used during team selection. We can also use these to predict the out come of matches, in particular useful when rain interrupts play.

Statistics in Cricket

The statistics that you are probably most familiar with are the player and team statistics.

Table 1, shows the comparative team statistics for the 77 ODIs played between South Africa and Australia from 1992 to 2009. SA won 35 of these. Various other statistics can be found in the remaining columns.

A quick question, "For the team you support, would you prefer a win to loss ratio that is larger than or smaller than 1?" For the answer, look at the Answers section.

In Table 2 we have the ODI and T20I career batting statistics for Graham Smith. How do you suppose the Strike rate was calculated?

Statistics for fielding and bowling are also available, for all formats of the game.

Tables with descriptive statistics

Table 1: Statistics for ODI game between South Africa and Australia

Team	Span	Matches	Won	Lost	Tied	No result	Ratio W/L	Run per over	High score	Low score
Australia	1992-2009	77	39	35	3	0	1.11	4.84	434	93
South Africa	1992-2009	77	35	39	3	0	0.89	4.71	438	69

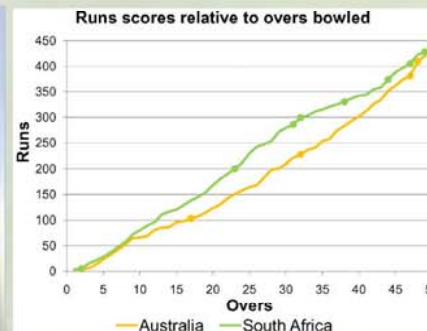
Table 2: Career batting statistics for Graham C Smith

	Matches	Innings	Not out	Runs	High score	Average	Balls faced	Strike rate	100s	50s	4s	6s
ODIs	157	155	9	5817	141	39.84	6996	83.14	8	41	679	38
T20Is	31	31	2	958	89*	33.03	742	129.1	0	5	122	25

Graphs and figures

Graphs are often very useful to display information.

On the 12th of March 2006 Australia set a massive target of 434 runs for South Africa. The manner in which runs were obtained and when wickets fell, are depicted in the graph below. South Africa amazingly won this match on the second last ball, with a wicket in hand.



More complicated statistics

While the measure in Table 1 and 2 are well known (and used), various articles have suggested alternative measures for assessing player and team performance. These measures have been used to rank players and teams. These rankings can then be used in team selection.

Optimisation models, such as integer linear programming, have been built as a suggested tool for teams election.

Statistics has also played an important role in determining the outcome in rain interrupted matches. Currently, the universally used rule is the Duckworth-Lewis method.

Answers

1. The win to loss (W/L) ratio is calculated by dividing the number of games won by the number of games lost. You would therefore like to see a value of greater than 1 for this ratio, for the team you support. The bigger it is, the better your team performs against the stated opposition.
2. The strike rate is calculated as follows: $100 \times \text{runs} / (\text{balls faced})$. Do you get the same values?

References
www.espnocricket.com (22 October 2010)