

Coleman Medal



Student Activity

7 8 9 10 11 12



Full Stop for Full Forwards

The Coleman medal, named after John Coleman (Essendon 1949 to 1954) is awarded to the AFL player that kicks the most goals in a season. Coleman kicked 12 goals in his debut match and still mixes it with the best when it comes to the average number of goals kicked per game. Peter Hudson was the first Coleman medal recipient to kick more than 100 goals in a season (1968, 125 goals), he backed this up with 146 goals in 1970, 140 in 1971 and 105 in 1977. Since this amazing era, players such as Jason Dunstall, Tony Lockett and Gary Ablett (Snr) have collected multiple Coleman medals consisting of more than 100 goals in a season. More recently, recipients of the medal have kicked between 60 and 80 goals per season. Does this recent trend represent a 'full stop' for full forwards?

Your task is to see if data supports the notion that the position of full forward is no longer as critical as it was in the 1970's through to the 1990's.

Coleman Data

Open the TI-nspire file "Full Forward Full Stop".

Navigate to page 1.2.

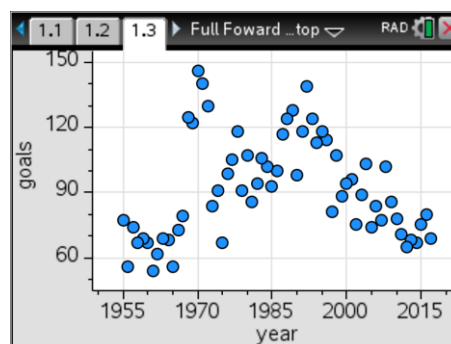
- Player** Alphabetical listing Coleman Medallist.
- Team** Team when medal was awarded.
- Year** Year when medal was awarded.
- Goals** Number of goals kicked in the season.

A	year	B	player	C	team	D	goals
1	2017	Lance F...	Sydney ...	69.			
2	2016	Josh Ke...	West Co...	80.			
3	2015	Josh Ke...	West Co...	75.			
4	2014	Lance F...	Sydney ...	67.			
5	2013	Jarryd R...	Hawthor...	68.			



Do not attempt to sort individual columns, this will disassociate the player with their corresponding data. When statistical plots are generated they automatically display in the appropriate order based on the data represented on the x axis.

Page 1.3 contains a Scatter Plot of Coleman medal winners since its inception in 1955.



Question: 1.

According to the entire data set, is there an overall tendency for full forwards to kick more or less goals each season? (Support your answer with evidence)

Moving Averages

Navigate back to page 1.2.

Label column E as: "MA3PT" (Moving Average – 3 Point)

This column will contain a 3 point moving average for the number of goals kicked by the Coleman medallist each year. The measure of central tendency (average) in this example will be the mean.

Navigate to cell E2 and enter the formula:

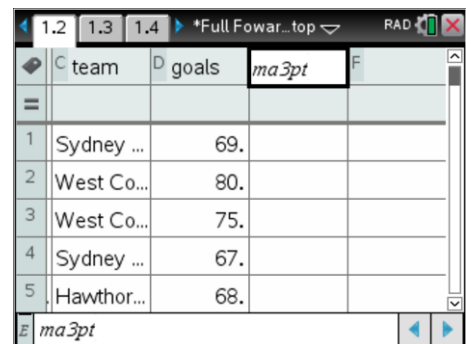
`=mean(D1:D3)`

Note that ":" can be obtained from the punctuation key. 

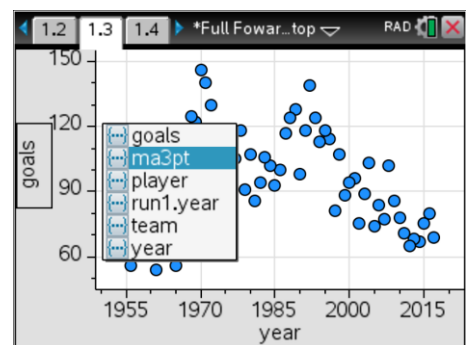
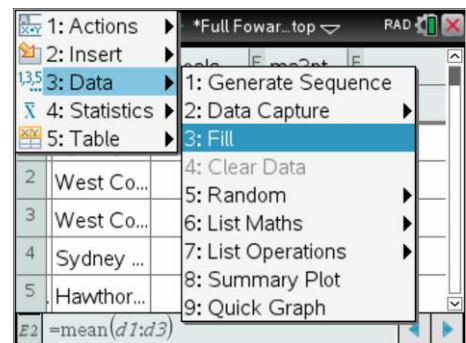
Once the formula has been entered, select cell E2 and choose FILL from the DATA menu.

Arrow down to cell E62, level with the second last entry in column D and press enter.

Navigate to the scatter plot on page 1.3 and change the scatterplot to show year and ma3pt.



	team	goals	ma3pt
1	Sydney ...	69.	
2	West Co...	80.	
3	West Co...	75.	
4	Sydney ...	67.	
5	Hawthor...	68.	



Question: 2.

Does the 3 point moving average show any clear trends in the data?

Question: 3.

Why are the first and last cells in Column E left blank?

Question: 4.

Use column F to generate a 3 point moving average using the median as the measure of central tendency.

Label the column "med3pt"

Hint: The formula in cell F2 should be "`=median(d1:d3)`" then use the FILL command.

Question: 5.

Change the scatterplot to show the 3 point moving median data over time.

Question: 6.

In column G, generate a 5 point moving average (mean) for the Goals data and comment on whether any trends are more prevalent.

Question: 7.

Which cells needed to be left blank?

Extension - Game Development

Many would argue that Australian Rules football has evolved significantly over the past 20 to 30 years. The game is definitely faster. Training has an increased emphasis on speed, digital tracking of players and an increased number of interchange opportunities helps ensure players on the field are fresh and ready to run. Perhaps a faster delivery into the forward line means that full forwards do not have the same opportunities as before.

Question: 8.

Investigate the past 30 years of data for the number of goals kicked by the Coleman medallist.

- Identify any trends
- Make predictions for future Coleman medallists (with regards to number of goals)
- Comment on the limitations of future predictions

Question: 9.

The Coleman medallist is the leading goal kicker for the season across all clubs. Investigate the leading group of goal kickers. The AFL website is brilliant for collecting this type of data.

Check out: <http://www.afl.com.au/stats>

Change the data to reference players rather than teams.

Ensure "Goals" is included in the list of data (or make it the only selection using the advanced options) and sort from highest to lowest.

Data can be copied and pasted into Excel and then into a TI-Nspire spreadsheet.