

Graph the data to determine a suitable moving average.

Select columns A and B, tap **Graph**, **Scatter**. Tap **View, Lines**.

A four-point centred moving average looks appropriate.

Start a new spreadsheet and enter the time series data shown.

Resize the data window.

Copy and paste cells A3 to A12 into cells C3 to C12.

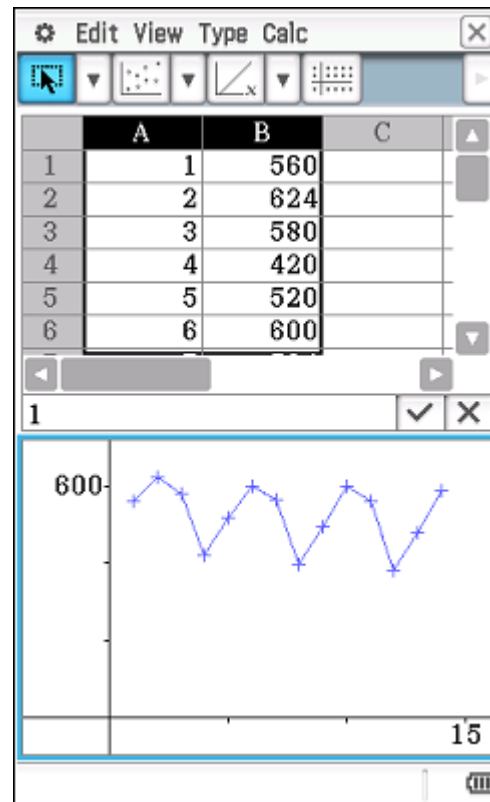
Resize the columns.

Tap into cell D3 and enter the 4-point moving average formula.

Tap on  to check.

Resize the data window.

	A	B	C
1	1	560	
2	2	624	
3	3	580	
4	4	420	
5	5	520	
6	6	600	
7	7	564	
8	8	396	
9	9	496	
10	10	600	
11	11	560	
12	12	380	
13	13	480	
14	14	588	
15			
16			



	A	B	C	D	E
1	1	560			
2	2	624			
3	3	580	3		
4	4	420	4		
5	5	520	5		
6	6	600	6		
7	7	564	7		
8	8	396	8		
9	9	496	9		
10	10	600	10		
11	11	560	11		
12	12	380	12		
13	13	480			
14	14	588			
15					
16					

	A	B	C	D	E
1	1	560			
2	2	624			
3	3	580	3	541	
4	4	420	4		
5	5	520	5		
6	6	600	6		

$$=(B1/2+B2+B3+B4+B5/2)/$$

D3 Value:
541

D3 Formula:
$$\frac{B1}{2} + B2 + B3 + B4 + \frac{B5}{2}$$

4

Tap **Graph, Scatter**.

Tap **Calc, Regression, Linear Reg** to obtain the regression line.

Note the coefficients for later use or tap **Output>>** and store the coefficients within the spreadsheet.

Return to the data window.

Select cells D3 to D12.

Tap **Edit, Fill Range** and tap **OK**.

Select columns C and D.

Tap into cell E3 and enter the formula **=B3-D3** to calculate the residual.

Select cells E3 to E12.

Tap **Edit, Fill Range** and tap **OK**.

The residuals may be required when making a prediction.

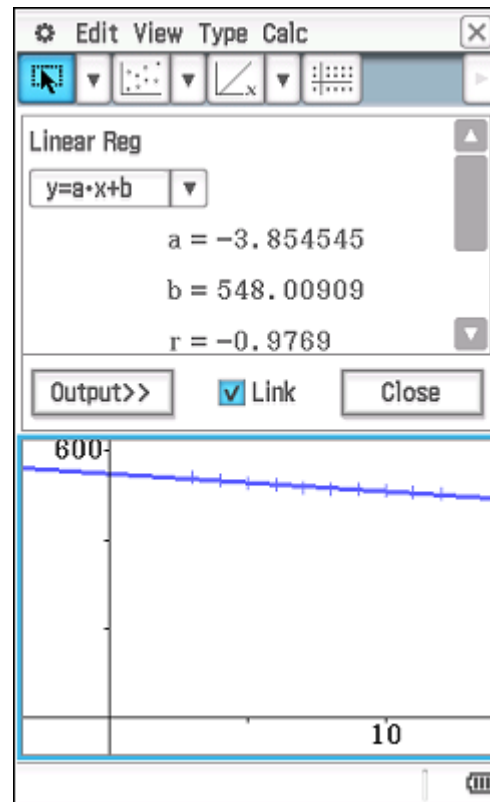
An alternative method is to use a program such as **mavll**, free from www.charliewatson.com/classpad.

mavll automates calculations involved in smoothing time series when the data is stored in the Statistics app and also allows for predictions to be made.

	A	B	C	D	E
1	1	560			
2	2	624			
3	3	580	3	541	
4	4	420	4	533	
5	5	520	5	528	
6	6	600	6	523	
7	7	564	7	517	
8	8	396	8	514	
9	9	496	9	513.5	
10	10	600	10	511	
11	11	560	11	507	
12	12	380	12	503.5	
13	13	480			
14	14	588			
15					
16					

3

C3:D12



	A	B	C	D	E
1	1	560			
2	2	624			
3	3	580	3	541	39
4	4	420	4	533	-113
5	5	520	5	528	-8
6	6	600	6	523	77
7	7	564	7	517	47
8	8	396	8	514	-118
9	9	496	9	513.5	-17.5
10	10	600	10	511	89
11	11	560	11	507	53
12	12	380	12	503.5	-123.5
13	13	480			
14	14	588			
15					
16					

=B3-D3

E3 39