Question 12 **(6 marks)**

A service centre manager recorded the number of customers over time periods, t, and produced the following spreadsheet to compare different moving averages.

t	Number of customers	3-point moving average	4-point centred moving average	5-point moving average	6-point centred moving average
1	840				
2	927	901			
3	936	919	902.625	892.8	
4	894	899	893.625	890.4	**C**
5	867	863	879	888.6	895
6	828	871	880.875	886.8	890.25
7	918	891	886.5	883.8	882
8	927	908	891	**B**	874.5
9	879	886	881.625	879	877
10	852	850	866.625	876.6	883.75
11	819	859	869.25	875.4	878.75
12	906	882	876	872.4	869.75
13	921	897	879.375	868.8	863
14	864	873	870	868.2	
15	834	838			
16	**A**				

(a) What is the purpose of calculating moving averages for time series data? (1 mark)

(b) Determine the values **A**, **B** and **C** in the above table. (3 marks)

(c) From those in the table above, which is the most appropriate moving average for the manager of the service centre to consider? Justify your choice. (2 marks)