**Activity 1: Rolling averages answers**

1. **Look at the rolling 7-, 14- and 21-day averages in the interactive. What happens to the range of the rolling average as the number of averaging points increases?**

* The variation in the rolling average values reduces – the high and low values move 'closer together'.

2. **The last value in each case is given below**.

|  |  |
| --- | --- |
| **Days to average** | **Most recent average value** |
| 7 | 2.00 |
| 14 | 2.14 |
| 21 | 1.95 |
| 28 | 2.00 |

**The most recent average values are 2. Does this mean that a 7-day average is the same as a 28-day average?**

* No – the result is pure luck. Consider how widely the 7-day average fluctuates. It could have given a very different answer.

3. **The organisation will use a 28-day rolling average value to predict the demand for the next 28 days. In this case, the demand will be taken as two per day for 28 days, giving a total of 56 items.**

* + **Is taking the average in this way sensible?**
  + **What factors could lead to problems with the approach?**
  + **How could you correct for these issues?**

The approach is sensible if average demand over time is not changing, or is changing slowly so that a period looks very similar to the one before it.

More sophisticated forecasting will take account of trends such as changing demand over time. This could be because of increased or decreased interest in a product, or because of seasonal effects that vary throughout the year.

In this example, where the product is a mobile phone, it might be expected that the demand from mid-October to mid-November will be lower than that for mid-November to mid-December as Christmas sales would be expected to improve demand.

In this case the manufacturer could refer to the previous year’s December demand either in isolation, or with respect to the previous year’s November demand, to improve the forecast.