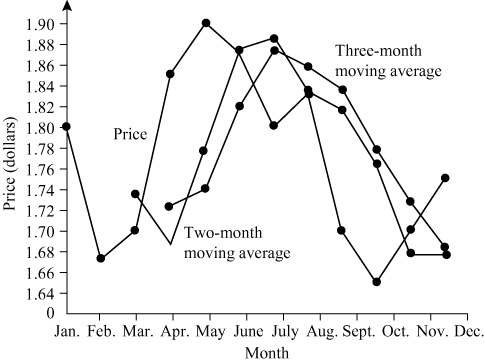
**Assignment #2 – Solutions**

**(4.9)**

**4.9**(a, b) The computations for both the two- and three-month averages appear in the table; the results appear in the figure below.



(c) MAD (two-month moving average) = .750/10 = .075

MAD (three-month moving average) = .793/9 = .088

Therefore, the two-month moving average seems to have performed better.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **4.9** | (d) Table for Problem 4.9(d): | | | | | | | | | | | | | | | | | | | |
|  |  |  | α = .1 | | | |  |  | α = .3 | | | | |  |  | α = .5 | | | |
| Month | Price per Chip | Forecast | | |Error| | | | | Forecast | | |Error| | | | | | Forecast | | |Error| | | |
| January | $1.80 | $1.80 | | $.00 | | | | $1.80 | | $.00 | | | | | $1.80 | | $.00 | | |
| February | 1.67 | 1.80 | | .13 | | | | 1.80 | | .13 | | | | | 1.80 | | .13 | | |
| March | 1.70 | 1.79 | | .09 | | | | 1.76 | | .06 | | | | | 1.74 | | .04 | | |
| April | 1.85 | 1.78 | | .07 | | | | 1.74 | | .11 | | | | | 1.72 | | .13 | | |
| May | 1.90 | 1.79 | | .11 | | | | 1.77 | | .13 | | | | | 1.78 | | .12 | | |
| June | 1.87 | 1.80 | | .07 | | | | 1.81 | | .06 | | | | | 1.84 | | .03 | | |
| July | 1.80 | 1.80 | | .00 | | | | 1.83 | | .03 | | | | | 1.86 | | .06 | | |
| August | 1.83 | 1.80 | | .03 | | | | 1.82 | | .01 | | | | | 1.83 | | .00 | | |
| September | 1.70 | 1.81 | | .11 | | | | 1.82 | | .12 | | | | | 1.83 | | .13 | | |
| October | 1.65 | 1.80 | | .15 | | | | 1.79 | | .14 | | | | | 1.76 | | .11 | | |
| November | 1.70 | 1.78 | | .08 | | | | 1.75 | | .05 | | | | | 1.71 | | .01 | | |
| December | 1.75 | 1.77 | | .02 | | | | 1.73 | | .02 | | | | | 1.70 | | .05 | | |
|  | Totals |  | | | | $.86 |  |  | | | | $.86 |  | |  | | | $.81 |  |
|  | MAD (total/12) |  | | | $.072 | | |  | | | $.072 | | | |  | | $.0675 | | |

α = .5 is preferable, using MAD, to α = .1 or α = .3. One could  
also justify excluding the January error and then dividing by  
*n* = 11 to compute the MAD. These numbers would be $.078  
(for α = .1), $.078 (for α = .3), and $.074 (for α = .5).