Nicole Becker - Assignment 4 TIME SERIES ANALYSIS

Complete the following questions:

4. Listed below is the net sales in $million for Home Depot Inc. and its subsidiaries from 1993 to 2004.

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Net Sales | Year | Net Sales |
| 1993 | $9,239  | 1999 | $38,434  |
| 1994 | 12477 | 2000 | 45738 |
| 1995 | 15470 | 2001 | 53553 |
| 1996 | 19535 | 2002 | 58247 |
| 1997 | 24156 | 2003 | 64816 |
| 1998 | 30219 | 2004 | 73094 |

Determine the least squares equation. According to this information, what are the estimated sales for 2008 and 2009?

1. The Appliance Centre sells a variety of electronic equipment and home appliances. For the last four years the following quarterly sales (in $ millions) were reported.

Quarter

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | I | II | III | IV |
| 2005 | $5.30  | $4.10  | $6.80  | $6.70  |
| 2006 | 4.8 | 3.8 | 5.6 | 6.8 |
| 2007 | 4.3 | 3.8 | 5.7 | 6 |
| 2008 | 5.6 | 4.6 | 6.4 | 5.9 |

Determine a typical seasonal index for each of the four quarters.

12.Team Sports Inc. sells sporting goods to high schools and colleges via a nationally distributed catalogue. Management at Team Sports estimates it will sell 2000 Wilson Model A2000 catcher’s mitts next year. The deseasonalized sales are projected to be the same for each of the four quarters next year. The seasonal factor for the second quarter is 145. Determine the seasonally adjusted sales for the second quarter of next year.

26.The quarterlyproductionofpinelumber in millionsofboardfeet,byNorthwestLumbersince2004is:

Quarter

|  |  |  |  |
| --- | --- | --- | --- |
| Winter | Spring | Summer | Fall |
| 7.8 | 10.2 | 14.7 | 9.3 |
| 6.9 | 11.6 | 17.5 | 9.3 |
| 8.9 | 9.7 | 15.3 | 10.1 |
| 10.7 | 12.4 | 16.8 | 10.7 |
| 9.2 | 13.6 | 17.1 | 10.3 |

a)Determine the typical seasonal pattern for the production data using the ratio-to-moving-average method.

b)Interpret the pattern.

c)Deseasonalizethedataanddeterminethelineartrendequation.

d)Project the seasonally adjusted production for the four quarters of 2009.