47 (a) The data points (1975, 8.0), (1977, 9.1), (1979, 10.3), (1981, 12.1), (1983, 13.3), (1985, 14.8),

[1973, 1997, 2] by [0, 25, 1]

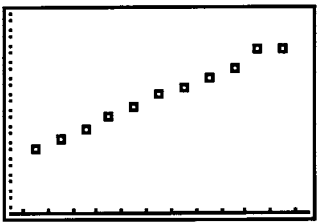

Figure 47

(b) Use the statistical package on the graphing calculator to find the values of $a = 0.66045$ and $b = -1296.5$. Therefore the regression line equation is $y = 0.66045x - 1296.5$.

(c) The slope of 0.66045 means that the percentage of women in state legislatures has increased by approximately 0.66% each year from 1975 to 1995.

(d) Let $x = 1998$, then $y = 0.66045(1998) - 1296.5 \approx 23.1$. In 1998 the regression model finds that about 23.1% of the people serving in state legislatures will be women.