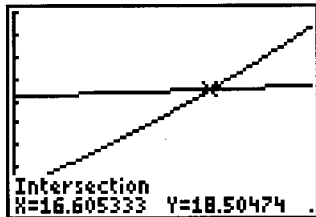


- 37 (a) Since  $x = 0$  corresponds to July 1994,  $f(0) = 18.2e^0 = 18.2$  and  $g(0) = 14e^0 = 14$ . In 1994, the population of New York was 18.2 million, while the population of Florida was 14 million.
- (b) Graph  $Y_1 = 18.2e^{(0.001X)}$  and  $Y_2 = 14e^{(0.0168X)}$ . Their graphs intersect near the point  $(16.6, 18.5)$ . See *Figure 37*. From the graph we can see that if present trends continue, Florida's population will first exceed New York's in  $1994 + 16.6 = 2010.6$  or approximately at the beginning of 2011. At this time both states will have a population of approximately 18.5 million.

$[0, 25, 5]$  by  $[13, 22, 1]$



*Figure 37*