

73 (a) Figure 73 show the graph of  $Y_1 = 2500/(30X)$ .

$[0, 1, 0.1]$  by  $[0, 2000, 500]$

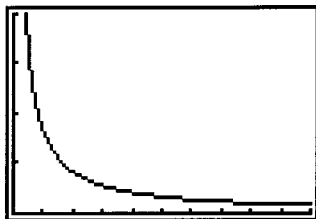


Figure 73

- (b) At  $x = 0$ , the denominator of  $\frac{2500}{30x}$  is equal to zero, whereas the numerator is nonzero. There is a vertical asymptote at  $x = 0$ . As the coefficient of friction  $x$  becomes smaller and approaches 0, the stopping distances become larger and larger without a maximum. This means that as the road surface becomes very slippery, the distance required to stop becomes very large. If it were possible for the roadway to be covered with glare ice having a coefficient of friction of  $x = 0$ , then the car would continue on indefinitely. A situation similar to this occurs in space where a satellite will travel indefinitely without slowing down.