

## Problem Set 67

2.  $v(t) = -9.8t - 20$   
 $h(t) = -4.9t^2 - 20t + 160$   
4.027 sec

4. max:  $19\frac{5}{6}$       min:  $-18\frac{17}{24}$

6.  $\frac{125}{6}$  units<sup>2</sup>

8.  $\frac{856}{15}$

10a.  $(\pi - 2)$  units<sup>2</sup>  $\approx$  1.142 units<sup>2</sup>  
b. 1.142

12.  $\frac{\sqrt{3}}{3}$

14.  $\frac{98}{3}$  units

16.  $-\csc x + C$

18.  $-3\sqrt{9 - x^2} + C$

20. B

22.  $\frac{-e^{-x} - e^{\cos x} \sin x}{2\sqrt{x} + 1} - \frac{e^{-x} + e^{\cos x}}{\sqrt{x}(2\sqrt{x} + 1)^2}$

24.  $h = 300L^{-2}$  ft  
cost =  $(12L^2 + 18,000L^{-1})$  dollars