

## Problem Set 70

2a.  $h(t) = -4.9t^2 + 10t + 100$   
 $h(3) = 85.9 \text{ m}$

b. 5.652 sec

4.  $f(x) = \frac{3}{2}x^2 + 2x + 2$

6. 1

8.  $\infty$

10.  $2\pi^2$

12. 1

14.  $-3(x \cos x - \sin x) + C$

16.  $x \ln x - x + C$

18. A

20a.  $y = \frac{1}{2}x + \frac{\pi - 2}{4}$

b.  $y = \frac{1}{2}x + \frac{2 - \pi}{4}$

22.  $\frac{1}{2}e^{x^2+2x} + C$

24.  $wd^2 = 144w - w^3$