

3.5

- #2 6
- #12 314 cm<sup>3</sup>/s
- #16 1.6 cm<sup>2</sup>/min.

- 3.6 #2  $dy = (2x + \frac{1}{x^2}) dx$   
 #6  $\Delta y = -0.0135$   $dy = -0.0148$   
 #8 0.40 in<sup>2</sup>, 1.6%  
 #16 0.6  $\Omega$

- 4.1. #2.  $x^2 + C$  #6  $\frac{2}{5}x^5 - 2x^3 + \frac{1}{2}x^2 + 5x + C$   
 #8  $\frac{x^2}{2} - \frac{7x^5}{5} + C$  #12  $-\frac{2}{\sqrt{x}} + C$

- 4.3. #2  $\frac{15}{2}$  #4  $\frac{26}{3}$  #6  $\frac{1}{6}$  #8 1

- 4.5 #2  $\frac{2}{5}x^{5/2} - \frac{1}{2}x^2 + C$   
 #4  $3x^{1/3} + 2x^{3/2} + C$   
 #14  $\frac{1}{16}(x^4 + 1)^4 + C$   
 #20  $-\frac{1}{3}(1-2t)^{3/2} + C$   
 #22  $\frac{3}{8}(t^2 + 1)^{4/3} + C$   
 #24  $2\sqrt{x^2 - x} + C$   
 #28  $x - \frac{2}{3}x^3 + \frac{1}{5}x^5 + C$   
 #30  $2\sqrt{x} + x + C$

- 4.5  
 #54 2 #56  $\frac{28}{3}$  #60  $\frac{10}{3}$  #62 2 #64  $\frac{1}{3}$   
 #66  $\frac{136}{3}$  #68  $\frac{16\sqrt{2}}{3}$

4.6. #10  $\frac{1}{3}$ , #22  $\frac{1}{6}$ , #30  $\frac{2}{3}$

EVEN'S

4.8. #2  $y = x^3 + 1$ , #4  $y = \frac{3}{4}x^4 - x - 11$

#6  $y = \frac{1}{4}x^4 - 4x + 7$  #10 20m #20 36 m/s.

5.1 #4  $\frac{1}{2}(\sqrt{5}-1)$  #6  $\frac{\sqrt{21}}{7}$  #12  $\sqrt{\frac{206}{13}} \approx 3.7 A$

5.2. #6  $V = \frac{1}{2}\pi a^2$  #12  $8\pi$  #20  $24\pi$ .

5.3. #8  $\pi$  #12  $\pi$  #14  $\frac{\pi}{2}$ .

#16  $\frac{32\pi}{3}$

5.4. #6  $\bar{x} = \frac{2}{3}, \bar{y} = \frac{1}{3}$  #10  $\bar{x} = \frac{8}{3}, \bar{y} = \frac{8}{3}$  #16  $\bar{x} = \frac{8}{15}, \bar{y} = \frac{16}{105}$

#26  $\bar{x} = \frac{5}{2}, \bar{y} = 5$

5.6 #2a. 18 ft-lb #4. 48 ft-lb #8. 150 J  
2b 31.5 ft-lb.

5.6. #10 48w J #12  $18\pi w J$  #18. 32,000 J

5.6 #30 36w N #32 10w N #34. 120w N

5.6. #38  $\frac{1}{3}w N$  #42 21w N.