

Answers

Autumn 2008 Math 125 Final Exam

1. (a) $\frac{3}{8}x + \frac{1}{4}\sin(2x) + \frac{1}{32}\sin(4x) + C$
(b) $\sqrt{2} - 1$
2. (a) $\frac{1}{2}(x^2 - 16)\ln(x + 4) - \frac{1}{4}x^2 + 2x + C$
(b) $\frac{\pi\sqrt{2}}{2}$
3. (a) 80 m/min
(b) 3950 m
(c) 4265 m
4. $m = \frac{15}{2}$
5. $12\pi^2$
6. $0.15\pi + 0.3 \approx 0.771239$ J
7. 132 m
8. $\bar{x} = 0, \quad \bar{y} = \frac{3\sqrt{3} - 4\pi/3}{4\pi/3 - \sqrt{3}} \approx 0.41$
9. $y = \tan\left(\frac{1}{3}x^3 + x + \frac{\pi}{4}\right)$
10. 2030