

MATH152, 525–530, 534–536 Spring 2013,
Sample problems for Test 1. Answers

1. 8

2. $\frac{38\pi}{15}$

3. (a) $\frac{15\pi}{2}$

(b) $\frac{67\pi}{6}$

4. $\frac{\pi}{12}$

5. 625 (ft-lb)

6. 0.3125 (J)

7. 165543.75π (J)

8. $\frac{4}{9\pi} \left(\frac{\sqrt{2}}{4} + 1 \right)$

9. (a) $-\frac{1}{3} \sin(1 - t^3) + C$

(b) $-2(1 - x)^{1/2} + \frac{2}{3}(1 - x)^{3/2} - \frac{2}{5}(1 - x)^{5/2} + C$

(c) $-5e^{-1} + 2$

(d) $\frac{\cos^7 x}{7} - \frac{\cos^5 x}{5} + C$

(e) $\frac{7\sqrt{2}}{80}$

(f) $\frac{x}{16} - \frac{1}{64} \sin(4x) + \frac{1}{48} \sin^3(2x) + C$

(g) $\frac{1}{5}$

(h) $\frac{\sec^3 x}{3} + C$

(i) $-\frac{1}{4} \cos(2x) - \frac{1}{8} \cos(4x) + C$