**Mat 115 Worksheet 5 Answers**
**Tuesday, Oct 17 2017**

1. (a) 0, (b) $\sqrt{3}$, (c) 0, (d) $\pi$
2. 6.154 mi; 1.465 mi
3. $v(t) = \frac{1}{2}\sin 2t + 5$; $s(t) = -\frac{1}{4}\cos 2t + 5t + \frac{29}{4}$
4. $25/2$
5. $81/32$
6. $\pi - 2$
7. $2 - \sqrt{2}$
8. $1/6$
9. $8/3 - \sqrt{3}$
10. $\frac{1}{3+\cos x} + C$
11. $\frac{2}{\sqrt{\cos x}} + C$
12. $2(\cos 2 - \cos 3)$
13. $-\frac{\cos x^n}{n} + C$
14. $-\frac{1}{3}\sqrt{1-x^6} + C$
15. $\frac{4}{9}(1+x)^{9/4} - \frac{4}{5}(1+x)^{5/4} + C$
16. $x(x^2+1)^{-1/2} + C$
17. $\frac{1}{40}(8x^3+27)^{5/3} + C$
18. $\frac{3}{2}(\sin x - \cos x)^{2/3} + C$
19. $2\sqrt{1+\sqrt{1+x^2}} + C$
20. $-\frac{5}{2}(x-1)^{2/5} + C$
21. 3
22. $\ln|\ln x| + C$
23. -2
24. $2e^{\sqrt{x}} + C$
25. $\pi/12$
26. $e^x + x + C$
27. $3\pi/16$