Mat 115 Worksheet 2 Answers
Thursday, Oct 5 2017

1. $\frac{\tan 4x}{4} + C$

2. $\frac{-\csc 2x}{2} + C$

3. $-\cos x + \frac{1}{\pi}\sin(\pi x) + C$

4. $\frac{1}{2}\sec(2y) + \frac{1}{6}\cot(6y) + C$

5. $-\frac{\pi}{2}x^{-2} + 9e^x + C$

6. $7\sin(\frac{x}{7}) - \pi\sin(\frac{x}{\pi}) + C$

7. $\frac{1}{4}\sin^{-1}(\frac{x}{4}) + C$

8. $2x - 7\tan^{-1}x + C$

9. $-\frac{1}{6}\cos(6\theta) + C$

10. $-\frac{3}{2}x^{-2/3} + \frac{x^{e+1}}{e+1} + \ln|x| + C$

11. $\frac{1}{8}\sec^{-1}|\frac{x}{8}| + C$

12. $\frac{t^\pi}{\pi} + \frac{1}{2\pi}\sin(2\pi t) - \ln|t| + C$

13. $u(x) = e^x - 2e^{-2x} + \frac{1}{2}$

14. $s(t) = -\frac{t^3}{6} + 50t + 20$

15. $\frac{3}{2} + \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{3}} \approx 2.7845$, actual integral ≈ 2.4721

16. (a) 7, (b) -2, (c) 3.25. The midpoint Riemann sum is the best approximation

17. 3

18. -2

19. $\frac{25\pi}{2}$

20. 2π

21. 4945

22. (a) 8, (b) $12 + 5\pi$

23. (a)6, (b) 5, (c) $\frac{2}{\pi}$

24. $\frac{\pi-3}{3\pi}\ln 3 + \frac{1}{6}\ln 2 \approx 0.1320$