

MAT 115 Worksheet 9 Answers
Tuesday, Oct 31 2017

1. $\frac{1}{3}xe^{3x} - \frac{1}{9}e^{3x} + C$
2. $x \sec x - \ln |\sec x + \tan x| + C$
3. $x \ln 5x - x + C$
4. $\frac{1}{3} \ln^3 x + C$
5. $\frac{1}{2}(x^2 + 1) \tan^{-1} x - \frac{1}{2}x + C$
6. $\frac{e^x}{x+1} + C$
7. $-x^2\sqrt{1-x^2} - \frac{2}{3}(1-x^2)^{3/2} + C$
8. $2\sqrt{x} \cot^{-1} \sqrt{x} + \ln(1+x) + C$
9. $2\sqrt{x} \sin \sqrt{x} + 2 \cos \sqrt{x} + C$
10. $9/16$
11. $\frac{32}{3} \ln 2 - 28/9$
12. $\frac{3}{25}e^{4\pi/3} - \frac{4}{25}e^{2\pi/3}$
13. $2 \sin^{-1}(x/2) + \frac{1}{2}x\sqrt{4-x^2} + C$
14. $8 \sin^{-1}(x/4) - \frac{x\sqrt{16-x^2}}{2} + C$
15. $\frac{1}{16} \tan^{-1}(x/2) + \frac{x}{8(4+x^2)} + C$
16. $4\pi^2/3 - \sqrt{3}\pi$
17. $\frac{512\pi}{15}$
18. 80π (about $y = -2$) and 112π (about $x = -2$)