MAT 115 Worksheet 12 Answers
Thursday, Nov 9 2017

1. $2\sin^{-1}(x/2) + \frac{1}{2}x\sqrt{4-x^2} + C$

2. $8\sin^{-1}(x/4) - \frac{x\sqrt{16-x^2}}{2} + C$

3. $\frac{1}{16}\tan^{-1}(x/2) + \frac{x}{8(4+x^2)} + C$

4. $\sqrt{x^2-9} - 3\sec^{-1}(x/3) + C$

5. $-(x^2+2)\sqrt{1-x^2} + C$

6. $\frac{\sqrt{9x^2-4}}{4x} + C$

7. $\frac{x}{\sqrt{1-x^2}} + C$

8. $\ln\left|\sqrt{x^2-9} + x\right| + C$

9. $-\frac{x}{9\sqrt{4x^2-9}} + C$

10. $\pi/6$

11. (a) $(85\sqrt{85} - 8)/243$, (b) $(80\sqrt{10} - 13\sqrt{13})/27$, (c) $17/6$

12. (a) $35\pi\sqrt{2}$, (b) 8π