Errata for MA141 Fall 2016

#1. Chapter 0 Section 2 Subsection 2 Exercises
Page 27: Exercise 4. The equation should be:

$$36x^2 + 9y^2 - 324 = 0$$

#2. Chapter 0 Section 2 Subsection 2 Exercises
Page 29: Exercise 8. A better equation is:

$$4x^2 + 25y^2 + 24x + 250y = -561$$

#3. Chapter 0 Section 3 Subsection 8 Exercises
Page 64: Exercise 22. Interchange horizontal asymptote and vertical asymptote in parts (a) and (c).

#4. Chapter 0 Section 3 Subsection 8 Exercises
Page 68: Exercise 50. A better equation would be

$$2 - 3\sin\theta = 1 - 5\sin\theta$$

#4. Chapter 0 Section 3 Subsection 8 Exercises
Page 68: Exercise 51. Change the t-interval to

$$0 \leq t < \pi$$

#4. Chapter 0 Section 3 Subsection 9 Answers to Selected Exercises
Page 70: Exercise 33. Interchange the answers for (c) and (d)

#5. Chapter 0 Section 1 Subsection 1 Exercises
Page 77: Exercise 13. The t-interval should be

$$0 \leq t < \frac{\pi}{2}$$

#6. Chapter 1 Section 1 Subsection 5 Answers to Selected Exercises
Page 19: Exercise 17. Interchange the answers for (d) and (e)

#7. Chapter 1 Section 2 Subsection 5 Exercises
Page 39: Exercise 2. Add the following question: What limit does this prove?

#8. Chapter 2 Section 1 Subsection 4 Exercises
Page 13: Exercise 10. Add the hint: Use the alternate definition of the derivative.

#9. Chapter 2 Section 3 Subsection 3 Answers to Selected Exercises
Page 34: Exercise 15. The correct answer is

$$\frac{dy}{dx} = \frac{1}{2\sqrt{x}} - \frac{1}{2x^{3/2}} \qquad \frac{d^2y}{dx^2} = -\frac{1}{4x^{3/2}} + \frac{3}{4x^{5/2}}$$

#10. Chapter 2 Section 6 Subsection 5 Exercises
Page 76: Exercise 18. Change this equation to

$$\tan y = \frac{1}{x}$$

#11. Chapter 3 Section 1 Subsection 4 Answers to Selected Exercises
Page 17: Exercise 21. Answer: The function $f(x) = x^{1/3}$ is not differentiable at $x = 0$. The function has a vertical tangent at $x = 0$. Newton's method is not applicable on intervals that contain $x = 0$. The method spirals away from $x = 0$.

#12. Chapter 3 Section 3 Subsection 4 Exercises
Page 67: Exercise 1. The given graph is for f' not f.

#13. Chapter 3 Section 3 Subsection 4 Exercises
Page 68: Exercise 2. The given graph is for f' not f.

#14. Chapter 3 Section 3 Subsection 5 Answers to Selected Exercises
Page 83: Exercise 17 (e). There is a third point of inflection namely: $(0, 2)$.

#15. Chapter 3 Section 4 Subsection 1 Exercises
Page 92: Exercise 12. This is really a challenging problem. And lets make the fence 9 ft tall.

#16. Chapter 3 Section 4 Subsection 2 Answers to Selected Exercises
Page 95: Exercise 11. The dimension are 20/3 cm by 80/3 cm by 80/3 cm.

#17. Chapter 3 Section 5 Subsection 3 Exercises
Page 107: Exercise 28. Change the limit to

$$\lim_{x\to\infty} (1 + e^x)e^{-x}$$

#18. Chapter 3 Section 5 Subsection 4 Answers to Selected Exercises
Page 108: Exercise 23. Answer: $e^{3/2}$

#19. Chapter 3 Section 6 Subsection 4 Answers to Selected Exercises
Page 126: Exercise 9. The answer is:

$$df = (3x^2 - 4x)dx, \quad \Delta f \approx (3 \cdot 2^2 - 4 \cdot 2) \cdot 0.1 = 0.4, \quad f(2.1) \approx -2 + 0.4 = -1.6$$

#20. Chapter 4 Section 5 Subsection 1 Exercises
Page 60: Exercise 12. Change to

$$\int_0^2 \frac{x^3}{\sqrt{x^2+1}}\, dx$$

#21. Chapter 4 Section 5 Subsection 2 Answers to Selected Exercises
Page 61: Exercise 5. The answer is:

$$-\frac{\pi}{4} - \frac{\ln 2}{2} + \frac{\sqrt{3}\pi}{3}$$

#22. Chapter 5 Section 1 Subsection 2 Answers to Selected Exercises
Page 77: Exercise 1. The answer is: 42.05

#23. Chapter 5 Section 1 Subsection 2 Answers to Selected Exercises
Page 77: Exercise 9. The answer is: $e^2 - \dfrac{1}{e} \approx 7.02$