Review Answers Chapter 5

1. y = = 2 2. y = -ln(cosx) 3. not separable: y(1.3)

4. y = 2esinx+x 5. y =  6. y =  7. not sep: y(1.3)

8. Show is a solution by taking y’’ and y’ and plugging into differential equation given; y = -2x + ½ x3

9. y = 4e0.02239t; 689.857 million people 10. a) B = 10000e1/10(ln2.4)t b) t = 7.9174 days

11. S=500e-0.02128t , t = 32.566 min 12. y =  13. a) 75 guppies b) 150 guppies 14. y’ = 

15. y ‘ = 48x5 16. y’ =  17. y’ =  18. y’ = 2x

19. y’ =  20. y’ = arcsec(3x2 – 2x) + 

21. y’ = 

**Evens p. 407**

66. 4xex(1+ln4) 68. 4-x – x(4-x)ln4 70.  72.  78. y = 5e(ln0.5/1620)t; 3.868 g 82. y=  84. y=  94. y’ =  96. y’ =  98. y’ =  106. ½ (arcsinx)2 + c

**Are you ready for the Chapter 5 test?**

1. **Did you review 5.1-5.5 test and NOW know how to do EVERYTHING on this test????**
2. **Have you memorized the derivatives of ALL functions (see chart p385) and can do these using chain rules, products, quotients, etc?**
3. **Do you know how to use log properties to make the derivatives easier to do (when have logs)?**
4. **Do you know how and when to use logarithmic differentiation?**
5. **How do you separate variables in a differential equation to solve? Can you determine if separable or not?**
6. **Can you approx function values using Euler’s Method if not separable?**
7. **What are the steps in solving a differential equation?**
8. **What do you do if it asks you to “verify a solution” to a differential equation?**
9. **Can you set up and solve the word problems referring to “the rate of change of blah is proportional to blah”? How do you find C and k?**
10. **Can you set up “inversely” proportional? Jointly?**
11. **Given a logistic differential equation, can you pick out M? Can you do the infinite limit of P(t)? Can you find the population that will result in a max growth rate?**
12. **When finding an antiderivative, can you pick out your u and/or know when to simplify and NOT do a u-sub?**