

Online Math 3321

Alternate Assignment 1

Please submit your answers using the EMCF Alternate01 on CourseWare.

All answers should be entered as numeric values, accurate to four places after the decimal. For example, if you determine that the answer is 21.4156773, then you must enter (at least) 21.4156. The response 21.4157 will be incorrect, because it is not accurate in the fourth place after the decimal. Do not enter e^2 . Instead, numerically evaluate e^2 . Do not enter $1/e$. Instead, numerically evaluate $1/e$.

1. Give the solution to $\frac{dy}{dx} = 2y$, $y(0) = 1$ at $x = 2$. i.e. find the solution and then evaluate it at $x = 2$.

2. Give the solution to $\frac{dy}{dx} = -3y$, $y(0) = 1$ at $x = 1$.

3. Give the solution to $\frac{dy}{dx} = 2y + 1$, $y(0) = 1$ at $x = 1$.

4. Give the solution to $\frac{dy}{dx} = -2y + 3$, $y(0) = \frac{-3}{2}$ at $x = 1$.

5. Give the solution to $\frac{dy}{dx} + 3y = 1$, $y(0) = 1$ at $x = 2$.

6. Give the solution to $\frac{dy}{dx} + 2xy = 2x$, $y(0) = -1$ at $x = 2$.

7. Give the solution to $\frac{dy}{dx} + e^{x-y} = 0$, $y(0) = -1$ at $x = -1$. Hint:
 $e^{x-y} = e^x e^{-y}$.

8. Give the solution to $\frac{dy}{dx} - 2y = 1 - 2x$, $y(1) = 1$ at $x = 0$.

9. Give the solution to $x^2 \frac{dy}{dx} = y - xy$, $y(-1) = e$ at $x = 1$.

10. Give the solution to $\frac{dy}{dx} + (1 - x)y = 1 - x$, $y(2) = 2$ at $x = 0$.