

ENGR 213 sample final answers

1.

$$x = \frac{t}{C + \ln t}$$

2.

$$y = \frac{C - \cos(2x)}{x^2}$$

3.

$$y = 1 + Ce^{-\sin x}$$

4.

$$y = e^x + 2xe^x$$

5.

$$z_1 = 3 \quad z_2 = 1 + 2i \quad z_3 = -1 \quad z_4 = 1 - 2i$$

6.

$$y = (3x^2 + Cx^3)^{-1/3}$$

7.

$$y = c_1 \cos x + c_2 \sin x - \frac{4}{9} \cos 2x - \frac{1}{3} x \sin 2x$$

8.

$$y = c_0 + c_1 x + \frac{1}{12} c_0 x^4 + \frac{1}{20} c_1 x^5 + \frac{1}{672} c_0 x^8$$

9.

$$\begin{cases} x = c_1 e^{2t} + c_2 e^{4t} \\ y = c_1 e^{2t} - c_2 e^{4t} \end{cases}$$

10.

$$y = c_1 e^x + c_2 e^{-x} + \frac{1}{8} e^{3x}$$
