

1. Use of cell phones is NOT allowed.
2. Answers without supporting work will NOT be given credit.
3. You have **17 minutes** to complete this quiz.

Name:

Serial:

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1. Given that $y_1 = x e^{3x}$ is a solution of the DE

$$y''' - 5y'' + 3y' + 9y = 0,$$

then find the **general solution** of the given DE.

2. Given that $y_1 = x^4$ is a solution of the DE

$$x^2y'' - 7xy' + 16y = 0,$$

then use **reduction of order** to find a second solution y_2 of the given DE.

3. Given that $y_p = \frac{1}{2}x + 1$ is a particular solution of the DE

$$y'' + 4y' + 4y = 2x + 6,$$

then find the **general solution** of the given DE.