

1. Use of cell phones is NOT allowed.
2. Answers without supporting work will NOT be given credit.
3. You have **15 minutes** to complete this quiz.

Name:

Serial:

-
-
1. Use the method of **undetermined coefficient** to find the general solution of the DE

$$y'' - y = x + \cos x.$$

2. Use the method of **variation of parameters** to find the general solution of the DE

$$x^2 y'' - xy' + y = 2x.$$

3. [Bonus] Find the **Cauchy-Euler equation** whose general solution is

$$y = c_1 x^{-2} + c_2 x^2 \cos(\ln x) + c_3 x^2 \sin(\ln x).$$