The complementary function of the differential equation

$$\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + 3y = 3x^2$$

is $y = Ae^x + Be^{3x}$.

Select the option that corresponds to an acceptable trial solution for finding a particular integral of the differential equation.

Options

A	ax^2	**B**	$ax^2 + bx + c$	**C**	axe^{3x}
D	$(ax + b)e^{3x}$	**E**	ax^2e^{3x}	**F**	$(ax^2 + b)e^{3x}$
G	$(ax^2 + bx)e^{3x}$	**H**	$(ax^2 + bx + c)e^{3x}$		