
Name: _____

ID #: _____

1) Solve $X' = \begin{pmatrix} 5 & -4 & 0 \\ 1 & 0 & 2 \\ 0 & 2 & 5 \end{pmatrix} X$ /12

2) Solve

$$\frac{dx}{dt} = 5x + y$$

$$\frac{dy}{dt} = -2x + 3y$$

/8

3) Solve

$$X' = \begin{pmatrix} 0 & 2 \\ -1 & 3 \end{pmatrix} X + \begin{pmatrix} 1 \\ -1 \end{pmatrix} e^t$$

/10