

MATH 335 Quiz 4

Name: _____

Show all work. 20 points .

1) Solve the initial value problem $\mathbf{x}'(t) = A\mathbf{x}(t)$ for $t \geq 0$ with $\mathbf{x}(0) = (3, 2)$. $A = \begin{bmatrix} 7 & -1 \\ 3 & 3 \end{bmatrix}$

2) Find the characteristic polynomial, the eigenvalues and a basis for each eigen space for $\begin{bmatrix} 7 & -5 \\ 1 & 3 \end{bmatrix}$