

221 Differential Equations
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Additional Homework 7

Due March 10

1. Solve the following systems by the substitution method presented in class:
 - (a) $x' = y/3, \quad y' = -x + \cos t;$
 - (b) $x' = y + 4, \quad y' = z - 2, \quad z' = -x + y + z.$
2. Show that in general if A and B are two $n \times n$ matrices then $AB \neq BA$ (i.e. the product is not commutative). Also, show that the cancellation rule does not hold, i.e. if $AB = AC$, this does not necessarily imply that $B = C$.