### Sample 6e Steps

**Equations**

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**Steps**

**1) Rearrange the right sides of the equations by collecting the terms that**

**multiply x1, x2 and x3:**

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**2) Divide both sides of the equations by the masses:**

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**3) Define the matrix A that contains the coefficients of x1, x2 and x3 in the**

**equations. The first column of the matrix A contains the coefficients of x1,**

**the second column contains the coefficients of x2, etc. The first equation**

**gives the first row of the matrix A, the second equation gives the second**

**row, etc. If x1, x2 or x3 does not appear in an equation, its coefficient**

**is 0 on the row of the array.**

**A = [ -(k1+k2)/m1 k2/m1 0**

**k2/m2 -(k2+k3)/m2 k3/m2**

**0 k3/m3 -(k3+k4)/m3 ]**