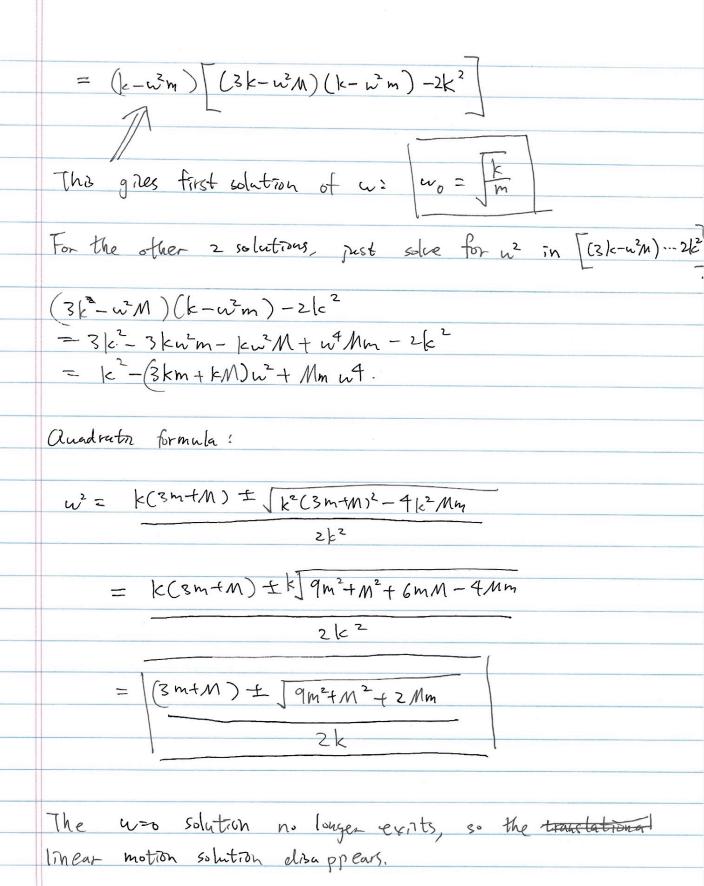
Colletein 6.2

$$Y = \frac{k}{2} \left[x_2 - (x_1 + \iota_3)^2 + \frac{k}{1} \left[(x_3 - \iota_3) - x_3 \right] + \frac{k}{2} x_2^2 \right]$$

Considering small displacements $\eta_1 = x_2$, $\eta_1 = x_1 + \iota_3$, $\eta_2 = x_3 - \iota_3$.

 $V = \frac{k}{2} (\eta_1 - \eta_2)^2 + \frac{k}{2} (\eta_3 - \eta_2)^2 + \frac{k}{2} \eta_2^2$
 $= \frac{k}{2} \left[\eta_1^2 + \frac{3}{3} \eta_2^2 + \eta_3^2 - 2 \eta_1 \eta_2 - 2 \eta_2 \eta_3 \right]$
 $T = \frac{m}{2} (x_1^2 + x_3^2) + \frac{M}{2} x_2^2$
 $= \frac{m}{2} (x_1^2 + x_3^2) + \frac{M}{2} x_3^2$
 $= \frac{m}{2} (x_1^2 + x_3^2) + \frac{M}{2} x_3^2$



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