

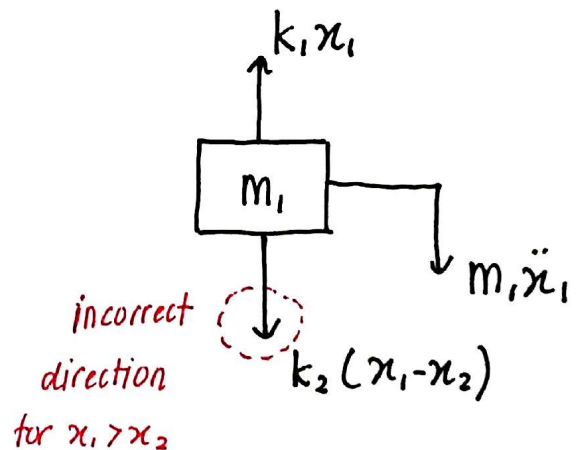
Mistake 1

1. You assume $x_1 > x_2$.

This means that the spring force $k_1 x_1$ is greater than that of $k_2 x_2$.

2. However, the direction of forces does not indicate that.

3. FBD(1)

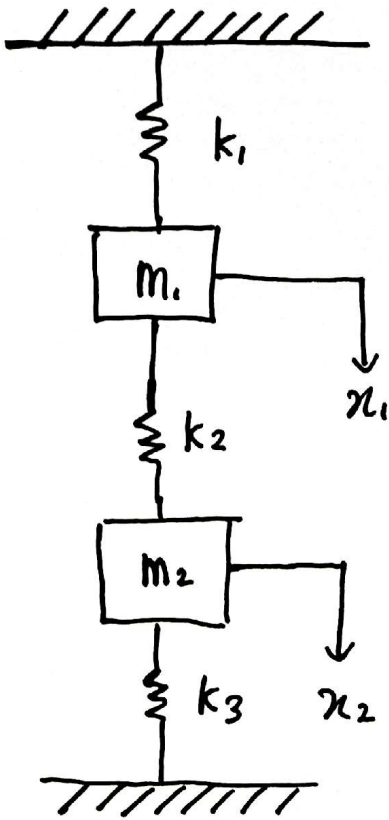


4. The above FBD indicates that force $k_2 x_2$ is greater than that of $k_1 x_1$.
($x_2 > x_1$)

Nonetheless, the correct term is

$$k_2 (x_2 - x_1).$$

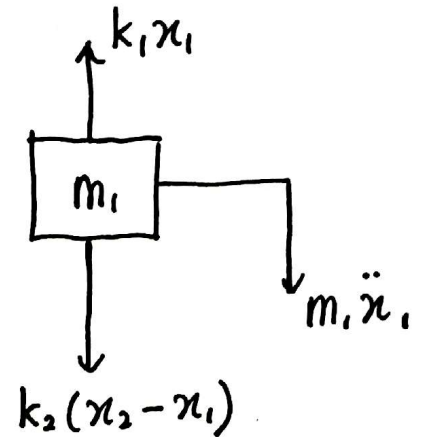
Mistake 2



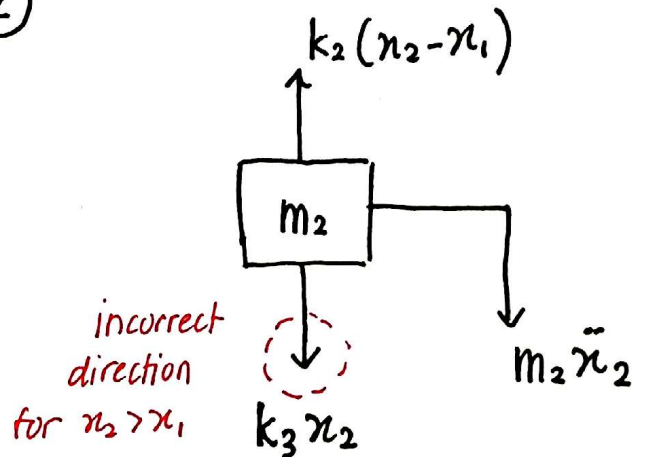
1. You assume $x_2 > x_1$. This means that spring force $k_2 x_2 > k_1 x_1$.

2. FBD (1)

This is correct.



3. FBD (2)



$k_3 x_2$ should be opposing the motion of m_2 .