$$F(x) \quad = \quad A + Bx$$

$$F(x) \quad = \quad A + Bx + Cx^2$$

$$\mu(x) = 0.2 * \frac{x}{3\text{m}}$$

$$\text{KE} = \frac{1}{2}mv^2$$

$$\text{Work} \ = \int \vec{F} \cdot \vec{dx}$$

$$\text{Work} \ = \int |F||dx|$$

$$\text{Work}_{\text{net}} \ = \int \vec{F}_{\text{net}} \cdot \vec{dx}$$

$$\begin{aligned} \text{KE}_{\text{f}} \quad &= \quad \text{KE}_{\text{i}} \quad + \quad \text{Work}_{\text{net}} \\ &= \quad \text{KE}_{\text{i}} \quad + \quad \int \vec{F}_{\text{net}} \cdot \vec{dx} \end{aligned}$$