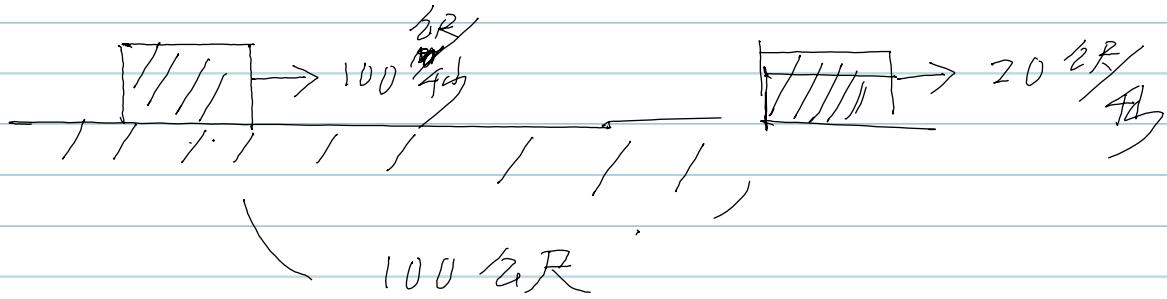


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水平面上一貨車將 10 公斤的物體以 $100 \frac{\text{公尺}}{\text{秒}}$ 的速度運動 (如圖)。當它移動 100 公尺後，速度降至 $20 \frac{\text{公尺}}{\text{秒}}$ 。求 (1) 摩擦力對它所做功 (2) 靜摩擦係數為若干？



$$W_{\text{net}} = Wg \times S \times \cos 90^\circ + N \times S \times \cos 90^\circ \\ + f_k \times S \times \cos 180^\circ = \Delta E_k = \frac{1}{2} \times M (v_f^2 - v_0^2)$$

$$= Mg \times 100 \times 0 + Mg \times 100 \times 0 \\ + f_k \times 100 \times (-1) = \frac{1}{2} \times 10 (20^2 - 100^2)$$

$$W_{\text{net}} = f_k \times 100 \times (-1) = 5 (400 - 10000)$$

$$= -418 \times 10^5 \text{ (焦耳)}$$

$$\nabla_k N \times (-100) = -418 \times 10^5$$

$$N_k (Mg) = +418 \times 10^3$$

$$\nabla_k = \frac{418 \times 10^3}{10 \times 10} = 418$$