

To hear and view this Pencast PDF on your computer, [click here to get the latest version of Adobe Reader®](#)

某路段的速限為 60 公里/時，假設車子以 $10 \frac{\text{公尺}}{\text{秒}^2}$ 的減加速度剎車，若剎車痕的長度為 20 公尺。試問該車是否超速？又若該車沒有超速，則剎車痕應低於多少公尺？

$$V_f^2 = V_0^2 + 2aS$$

$$0 = V_0^2 + 2 \times (-10) \times 20$$

$$V_0^2 = 400$$

$$V_0 = \sqrt{400} = 20 \left(\frac{\text{m}}{\text{s}} \right)$$

$$20 \times 3.6 = 72 \frac{\text{公里}}{\text{時}}$$

$$\frac{60}{3.6} = 16.7 \left(\frac{\text{公尺}}{\text{秒}} \right)$$

$$V_f^2 = V_0^2 + 2aS$$

$$0 = (16.7)^2 + 2 \times (-10) S$$

$$S = \frac{(16.7)^2}{20} = 13.9 \text{ (公尺)}$$