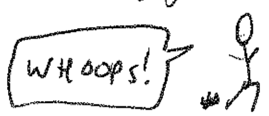
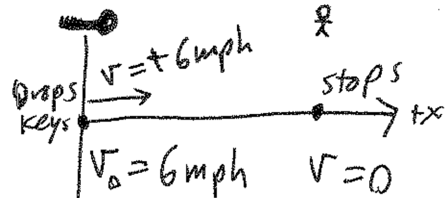
Clumsy Jogger.



Draw it // Axis it:



$v_0 = 6$ mph	$v = 0$	
$x_0 = 0$	$x = ?$	→ $x - x_0 = \Delta x$ seems to be what's being asked.
$t_0 = 0$	$t = 2s$	
$a = ?$	$a = ?$	→ acceleration is not really specified here

Knowns: $\boxed{v, v_0, t}$

Initial velocity $v_0 = +6 \frac{\text{miles}}{\text{hour}}$ → convert to SI units: $6 \frac{mi}{h} \cdot \frac{1h}{3600s} \cdot \frac{1609m}{1mi} = 2.68 \, m/s$

final velocity $v = 0 \frac{mi}{h}$

Time from key drop until stopping $t = 2s$

Unknowns:

a (acceleration while coming to rest) – not what's asked for in the question

Δx (distance covered while stopping) – this is what's asked for in the question.

Where to go from here?? Let's check our equations of motion...

$$v = v_0 + at$$

$$\Delta x = v_0 t + \frac{1}{2} a t^2$$

$$v^2 = v_0^2 + 2a\Delta x$$

Hmm, There seem to be none with only Δx not known, BUT, you'll notice that the first equation lets us solve for $\vec{a}$. And if we know $\vec{a}$, we'll have enough info to solve one of the other equations for Δx! So LET'S DO IT!

$v = v_0 + at$

$0\frac{m}{s} = 2.68\frac{m}{s} + a \cdot 2s$

$\frac{1}{s} \cdot (-2.68\frac{m}{s}) = a \cdot 2s \cdot \frac{1}{s}$

$\boxed{-1.34\frac{m}{s^2} = a}$

So now, our knowns are $v, v_0, t,$ and a. We can now use either of the other equations of motions to solve for Δx! Both now have Δx as the only unknown. I'll show both solved below... I'll leave out the units because I know everything is in S.I units...

Using $\Delta x = v_0 t + \frac{1}{2}at^2$:

$\Delta x = 2.68 \times 2 + \frac{1}{2} \times (-1.34)(2)^2$

$\Delta x = 5.36 + \frac{1}{2} \times (-1.34) \times 4$

$\Delta x = 5.36 + (-2.68)$

$\Delta x = 5.36 - 2.68$

$\boxed{\Delta x = 2.68 \text{ meters.}}$

Using $v^2 = v_0^2 + 2a\Delta x$:

$0^2 = (2.68)^2 + 2(-1.34)(\Delta x)$

$0 = 7.18 + (-2.68)\Delta x$

$(-2.68)\Delta x = -7.18$

$\Delta x = \frac{-7.18}{-2.68}$

$\boxed{\Delta x = 2.68 \text{ meters}}$

Either equation would have worked!

We now know how much she would have had to walk back: 2.68 meters