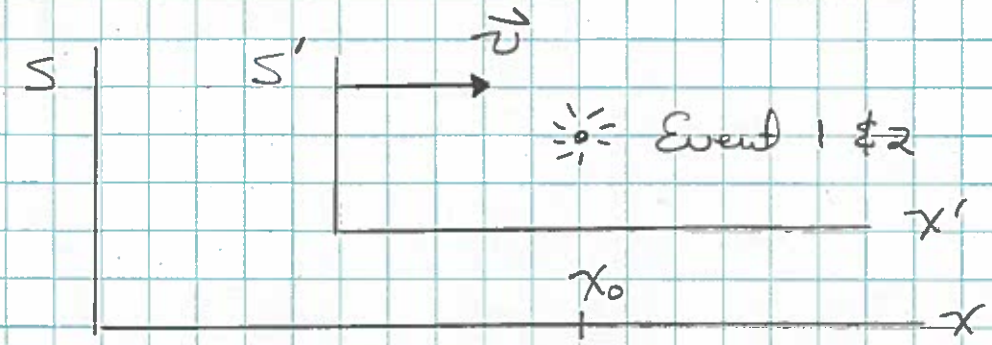

On S: event 1: $(x_1 = x_0, t_1 = 1s)$

event 2: $(x_2 = x_0, t_2 = 3s)$

On S': event 1: $(x_1' = 4m, t_1)$

event 2: $(x_2' = -4m, t_2)$

Note: times are the same in S & S'.

for event 1: GCT $\quad x_1 = x_1' + vt_1$

$$x_0 = x_1' + vt_1 \qquad (1)$$

event 2: $\quad x_2 = x_2' + vt_2$

$$x_0 = x_2' + vt_2 \qquad (2)$$

Subtract eqn (1) − eqn (2):

$$0 = (x_1' - x_2') + v(t_1 - t_2)$$

$$v = -\frac{(x_1' - x_2')}{(t_1 - t_2)} = -\frac{(4m - (-4m))}{1s - 3s} = \frac{-8m}{-2s}$$

$$\underline{v = 4\ m/s}$$

And, $x_1 = x_0 = x_1' + vt_1 = (4m) + (4\ m/s)(1s)$

$$\underline{x_0 = 8\ m}$$