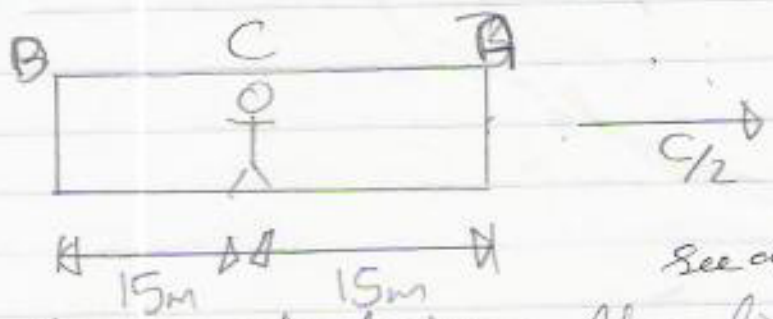
$= \frac{1E-7s}{\sqrt{1-(0.50)^2}} = 1.154E-7s$ X

Check: Moving clocks run slow, as do moving processes, so Dan will measure a moving event or process to take longer to occur than an observer in that moving reference frame 2/12

c). They do not agree on the simultaneity of the light arriving at A and B. These events have different space time coordinates ✓




See over page!

In the time it takes the light to travel from Cheryl to mirror A, the train has moved a distance $vt_A$; the light therefore only has to travel $15m + vt_A$

$ct_A = 15m + vt_A$

$t_A(c-v) = 15m$

$t_A = \frac{15m}{c-v}$

? According to the 1st part of the question the time to reach A + B is the same for Cheryl.

In the time it takes the light to travel from Cheryl to mirror B, the train has moved a distance $vt_B$ to the right. The light therefore has to travel a distance $15m + vt_B$.

$ct_B = 15m - vt_B$

$t_B(c+v) = 15m$

$t_B = \frac{15m}{(c+v)}$

?