



According to Cheryl Dan's frame moves with $v = -c/2$.

Using $t' = \frac{t - vx/c^2}{\sqrt{1-v^2/c^2}}$ Putting $v = -c/2$

gives $t' = \frac{2t + x/c}{\sqrt{3}}$

(i) Arrival at A $x_A = d_0$, $t_A = d_0/c$ so that Dan's time $= t'_A = \frac{2d_0/c + d/c}{\sqrt{3}}$

(ii) Arrival at B $x_B = -d_0$, $t_B = d_0/c$
 $t'_B = \frac{2d_0/c - d_0/c}{\sqrt{3}}$

(iii) & (iv) $x_{\text{net}} = 0$, $t_{\text{net}} = 2d_0/c$ $\therefore t'_{\text{net}} = \frac{4d_0/c}{\sqrt{3}}$