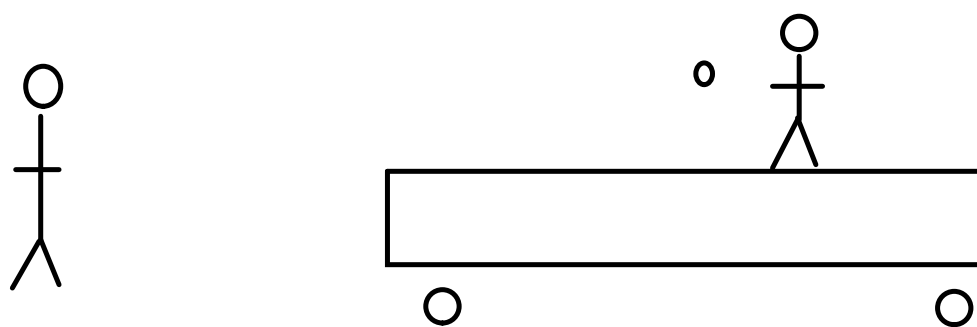


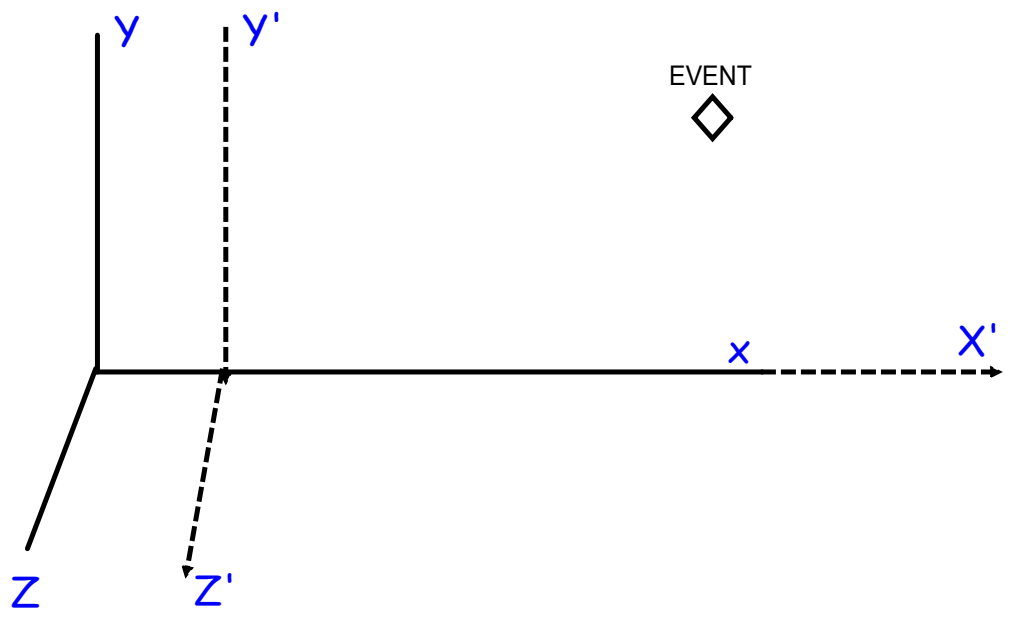
Theory of Relativity

Postulates:

1. The laws of physics are the same in all inertial reference frames
2. The speed of light in a vacuum is the same for all inertial observers.

Adding speeds.





Position

$$X' = \frac{X-vt}{\sqrt{1-v^2/c^2}}$$

Time Dilation

$$t = \frac{t_0}{\sqrt{1-v^2/c^2}}$$

Length Contraction

$$L = L_0 \sqrt{1-v^2/c^2}$$

RelativityNumbers.pdf - Adobe Reader

File Edit View Document Tools Window Help

1 / 1 75% Find

	v/c	v ² /c ²	L if Lo=1	t if To = 1	L*T
sou	0.000001	1E-12	1	1	1
	0.1	0.01	0.994987437	1.005037815	1
	0.5	0.25	0.866025404	1.154700538	1
	0.9	0.81	0.435889894	2.294157339	1
	0.99	0.9801	0.14106736	7.08881205	1
	0.999	0.998001	0.044710178	22.36627204	1
	0.9999	0.99980001	0.014141782	70.71244595	1
	0.99999	0.99998	0.004472125	223.6073568	1

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11.69 x 8.26 in

start

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You tube: Theory of Relativity

<http://www.youtube.com/watch?v=AZ6N85lNgHY&feature=PlayList&p=50193D62F125C243&index=0&playnext=1>



Einstein's Big Idea

<http://www.youtube.com/watch?v=V7vpw4AH8QQ&feature=PlayList&p=50193D62F125C243&index=1>



Time Travel Is Possible

<http://www.youtube.com/watch?v=X02WMNoHSm8&NR=1>

