11.3 Using the rapidity parameterization, the first transformation is

$$x_0' = x_0 \cosh\xi_1 - x_1 \sinh\xi_1 ,$$

$$x_1' = -x_0 \sinh\xi_1 + x_1 \cosh\xi_1 ,$$

with $\tanh\xi_1 = v_1/c$. Then, a second transformation, with $\tanh\xi_2 = v_2/c$, the 0-component is given by

$$x_0'' = x_0' \cosh\xi_2 - x_1' \sinh\xi_2$$

$$= \left(x_0 \cosh\xi_1 - x_1 \sinh\xi_1\right) \cosh\xi_2 - \left(-x_0 \sinh\xi_1 + x_1 \cosh\xi_1\right) \sinh\xi_2$$

$$= x_0 \left(\cosh\xi_1 \cosh\xi_2 + \sinh\xi_1 \sinh\xi_2\right) - x_1 \left(\sinh\xi_1 \cosh\xi_2 + \cosh\xi_1 \sinh\xi_2\right)$$

$$= x_0 \cosh(\xi_1+\xi_2) - x_1 \sinh(\xi_1+\xi_2)$$

Then, the equivalent velocity is

$$\frac{v}{c} = \tanh(\xi_1+\xi_2) = \frac{\tanh\xi_1 + \tanh\xi_2}{1 + \tanh\xi_1 \tanh\xi_2} = \frac{\frac{v_1}{c} + \frac{v_2}{c}}{1 + \frac{v_1 v_2}{c^2}} ,$$

or

$$v = \frac{v_1 + v_2}{1 + v_1 v_2/c^2}$$