1.
$$\beta = v/c$$

2. $\gamma = \frac{1}{\sqrt{1-\beta^2}}$

4. $p^{\mu} = (\frac{E}{c}, \vec{p})$

5. $\vec{p} = \gamma m \vec{v}$

3.
$$x^{\mu} = (ct, x, y, z)$$