1 Right Angles on a Spacetime Diagram

Missing `/var/www/paradigms_media_2/media/activity_media/spacetime_axes.png`

1. Draw two spacetime vectors, one on the ct' axis and one on the x' axis.
2. Write these vectors are column matrices with the primed coordinates. (You can choose numbers or do it generally with variables.)
3. Take the dot product between these two vectors. What is the result? What does it mean?
4. How would an observer in the unprimed frame write these columns? (Hint: Lorentz Transformation.)
5. Take the dot product between these two vectors. What is the result? What does it mean?