#ret #hw

## 1 | Simultaneity

Consider the following questions. Take a few moments to explain how you would determine simultaneity.

In everyday speech, we often say that two events occurred or will occur "at the same time." Exactly what does that mean? How could you determine whether two events occurred "at the same time" if the two events were

- 1. Located nearby (for example, one directly in front of you, the other just a few meters away)
- 2. Approximate the travel time of light to be equal and compare visual indicators.
- 3. Located at some distance (for example, one directly in front of you, the other in France)
- 4. Use two synced clocks which you can record events with, then confer after. Any de-sync due to movement or gravitational differences would be negligible.

## 1.1 | c) Located at a greater distance (for example, one directly in front

of you, the other on the planet Mars) :  $CUSTOM_{ID}$ : c-located-at-a-greater-distance-for-example-one-directly-in-front-of-you-the-other-on-the-planet-mars