1. (4 points) Alex Artzy is contemplating the purchase of the new *Nano* music player. At one store, the price on Monday is $199, but by the following Monday it has dropped to $179. If the price $P$ is a linear function of time $t$, find an equation for the price of the player as a function of time. When is the price below $100$?

2. (4 points) Alex suddenly worries that the price might actually be exponential. Assuming the same price data as in (1), find an equation for the price of the player in this case.

3. (2 points) If $P(t)$ is the function giving the price of the coveted *Nano* music player as a function of the time in days since the appointed Monday on which Alex first saw the player advertised, what is the meaning of $P^{-1}(49)$?