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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?

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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.

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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  $P^{-1}(49)$ ?