

7. [10 points] Percy brought Sally to the farm one day to pick strawberries. When they first began picking, Sally was picking strawberries at a rate of 357 strawberries per hour, and she was picking strawberries at a rate of 332 strawberries per hour at the end of the second hour.
- a. [4 points] Find a formula for an exponential function $R(t)$ that could model the rate at which Sally was picking strawberries t hours after they began. Give your answer in **exact** form.

$$R(t) = \underline{\hspace{10em}}$$

- b. [4 points] Find a formula for a linear function $L(t)$ that could model the rate at which Sally was picking strawberries t hours after they began. Give your answer in **exact** form.

$$L(t) = \underline{\hspace{10em}}$$

- c. [2 points] Now assume $S(t)$ was the actual rate at which Sally was picking strawberries t hours after they began. The rate at which Percy was picking strawberries t hours after they began is given by the function $P(t) = S(t + 2)$. Which of the following is a correct practical interpretation of $P(t) = S(t + 2)$ in this context? Circle your answer.

- (a) The rate at which Percy picks strawberries is equal to the rate at which Sally was picking them two hours earlier.
- (b) Percy picks strawberries for two hours more than Sally.
- (c) The rate at which Percy picks strawberries is equal to the rate at which Sally will be picking them two hours later.
- (d) Each hour, Percy picks two more strawberries than Sally.