

Practice the Math: Raising Mangoes

Read "Do the Math: Raising Mangoes." Try "Your Turn," For more math practice, do the following problems. Remember to show your work. Use a separate piece of paper if necessary.

1. A farmer has decided to plant and sell Christmas trees. The farmer estimates that each tree will sell for \$75.

- (a) How much will the farmer earn on sales of 300 trees?

- (b) If each tree take 2 gallons of water per day to thrive, how many gallons of water will it take to grow the trees each year?

- (c) If a new sapling costs \$1.25 and the farmer wants to replant the farm at the end of the year with 300 new trees, how much will the farmer need to invest?

2. Banana saplings cost \$8 each. Once the trees mature, each tree will produce \$50 worth of fruit per year. A village of 300 people decides to pool its resources to establish a community banana plantation. Their goal is to generate an income of \$200 per year for each person in the village.

- (a) How many mature trees will the village need to meet the goal?

- (b) Each tree requires 10 m^2 of space. How many hectares must the village set aside for the plantation? ($1 \text{ m}^2 = 0.0001 \text{ ha}$)

- (c) Each tree requires 15 L of water to be pumped in every day during the 6 hot months of the year (180 days) and no additional water during the other six months. How many liters of water are needed to be pumped in each year?