Logo, company name

Description automatically generated

How Much Does A Christmas Tree Cost?

# Name: Teacher Key

Most Christmas trees are priced based on the height of the tree. Farmers charge a certain amount per foot for a tree. Solve the following problems to figure out how much you would make from selling Christmas Trees. Then, figure out what you can afford to pay each seasonal laborer that works on the farm and how many laborers you can hire. Show your calculations.



1. An acre of land is 43,560 square feet. You have 10 acres of land. How many square feet are in the field?

435,600 square feet

Logo, company name

Description automatically generated\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If the length of the field is 1,000 feet long, how wide is the field? (435,600/1,000)

435.6 feet

Logo, company name

Description automatically generated\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Trees need to be planted five feet apart. How many rows of trees can you plant across the 1,000 feet length of the field? 1,000/5 = 200 rows

Logo, company name

Description automatically generated\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How many rows of trees can you plant across the width of the field? 435.6/5 = 87 rows

Logo, company name

Description automatically generated\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Spaced five feet apart in each row, how many trees could be planted in total?

200 rows across \* 87 rows wide = 17,400 trees

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Page One

Logo, company name

Description automatically generated

1. Each tree is between 6 and 10 feet tall. Trees are sold at $8 per foot. How many 6’ foot trees would need to sell to bring in an income of $100,000? $100,000/x x= 6ft trees \* $8 per foot

6\*8 = 48 100,000/48 = 2,084 trees

Logo, company name

Description automatically generated\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How many 8’ trees would you need to sell? $100,000/x x= 8ft trees \* $8 per foot

8\*8 = 64 100,000/64 = 1,562 trees

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Logo, company name

Description automatically generated

1. How many 10’ trees would you need to sell? $100,000/x x= 10ft trees \* $8 per foot

10\*8 = 80 100,000/80 = 1,250 trees

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Logo, company name

Description automatically generated

1. Next, consider how many people you can hire to work for you each season. Your farm expenses (rent, fertilizer, nursery bill, and utilities) total $80,000. Calculate your labor by subtracting your expenses from your income of $100,000. 100,000 – 80,000 = $20,000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If you are paying $10 per hour, how many part-time workers can you afford to pay 10 hours per week for five weeks (Thanksgiving through Christmas)?

Part time worker = x

(Wage \* hours \* weeks)/available income after expenses

($10 x 10 hours\* 5 weeks) = $500 per person $20,000/$500 = 40 employees can be hired

Logo, company name

Description automatically generated\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If you are paying $15 per hour, how many full-time workers can you afford to pay 40 hours per week for five weeks?

($15 \* 40 hours per week \* 5 weeks) = $3,000 per person $20,000/$3,000 = 6 employees can be hired

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Page Two