

more Math practice 10.1

Ratios

For tree farmers who harvest wood for lumber or paper production, the greatest profit can be realized by growing the maximum number of trees on an acre of land. The table below shows three different tree species and how many of each can be grown per acre.

Number of trees per acre

Type of tree	Trees per acre
Loblolly pine	350
Red oak	200
Tulip poplar	180

- How many more pine trees than oak trees can be grown on 1,000 acres of land?
- How many more pine trees than poplar trees can be grown on 1,000 acres of land?

Solution:

First set up the ratio for calculating how many trees of each species can be grown on 1000 acres of land, and then solve for x .

Ratio	Calculation
$\frac{350 \text{ pines}}{1 \text{ acre}} = \frac{x}{1000 \text{ acres}}$	$x = (350 \text{ pines}) \times (1000 \text{ acres})$ $x = 350,000 \text{ pines}$
$\frac{200 \text{ oaks}}{1 \text{ acre}} = \frac{x}{1000 \text{ acres}}$	$x = (200 \text{ oaks}) \times (1000 \text{ acres})$ $x = 200,000 \text{ oaks}$
$\frac{180 \text{ poplars}}{1 \text{ acre}} = \frac{x}{1000 \text{ acres}}$	$x = (180 \text{ poplar}) \times (1000 \text{ acres})$ $x = 180,000 \text{ poplars}$

Use the data to find the answers to the questions.

- $350,000 \text{ pines} - 200,000 \text{ oaks} = 150,000 \text{ more pines than oaks can be grown on 1,000 acres.}$
- $350,000 \text{ pines} - 180,000 \text{ poplars} = 170,000 \text{ more pines than poplars can be grown on 1,000 acres.}$

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