

HOME/SCHOOL CONNECTION

Investigation 4: Range of Tolerance

Work on these problems on another piece of paper.

Four friends want to plant a garden. One of their fathers said they could use an area in the backyard that was a rectangle 8 meters by 4 meters.

Fair plots

The friends want to divide the area into four equal parts. Each friend has a different way to divide the garden plot fairly. Show at least four different ways the garden could be divided. Which one would you pick for the garden? Why?

How much area to plant?

The friends have decided on a garden plan. They want to know how much area each person has for planting. One friend calculated and said that each would get 12 square meters to plant. Another said they would each get 8 square meters. A third said they would get 8 meters each. Only one of the friends had the correct answer.

What is the area of each person's piece of the garden?

A row of marigolds

The friends decided to plant a single row of marigolds along one of the 8-meter sides. They will start the row at one corner of the garden plot and plant to the opposite corner. Marigolds need to be planted 10 centimeters apart. How many marigolds will they need for the row?

A border for the garden

The friends really like the row of marigolds along one side of the garden. They want to plant marigolds around the whole garden. The border of marigolds will be planted along the outer edges, or the perimeter, of the garden. How many marigolds will they need in all to make a border for the entire garden?