G3-M7-Lesson 22

1. Jack uses square inch tiles to build a rectangle with a perimeter of 14 inches. Does knowing this help him find the number of rectangles he can build with an area of 14 square inches? Why or why not?

No, it doesn't. There is no connection between area and perimeter, so knowing how to build a rectangle with a perimeter of 14 inches doesn't help Jack figure out how many rectangles he can build with an area of 14 square inches.

I've studied area and perimeter a lot in class, and I know that they aren't related. If I want to know how many rectangles I can build with an area of 14 square inches, I can use square tiles or multiplication to figure it out. Thinking about perimeter won't help me.

2. Rachel makes a rectangle with a piece of string. She says the perimeter of her rectangle is 25 centimeters. Explain how it's possible for her rectangle's perimeter to be an odd number.

Most of the rectangles we've seen had an even perimeter because we usually look at rectangles with whole number side lengths. Rectangles can have odd perimeters if their side lengths are not whole numbers.

I know that rectangles with whole number side lengths have even perimeters because when you double the sum of whole numbers, you get an even number. Rectangles with fractional side lengths can have odd perimeters if the fractional parts add up to an odd number. For example, if a square has a side length of $\frac{1}{4}$, then the perimeter equals 1 because four copies of $\frac{1}{4}$ makes 1.