

## Grades 3 – 5 Task: The Wheel Shop

The Wheel Shop sells bicycles and go-carts. Each bicycle has only one seat and each go-cart has only one seat. There are a total of 21 seats and 54 wheels in the shop.

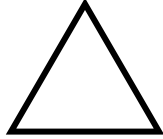


How many are bicycles and how many are go-carts?  
Explain how you figured it out.

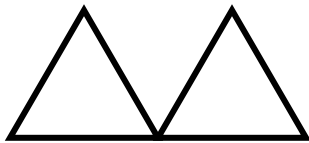
Adapted from Inside Mathematics, Grades 3-5

## Grades K-2 Task: Tri-Triangles

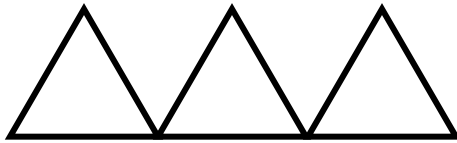
Bruce is making triangles out of toothpicks that are all the same length. How many toothpicks will be needed for a single triangle?



How many toothpicks are needed for two triangles?



How many toothpicks are needed for three triangles?



How many toothpicks are needed for four triangles in the same pattern?

How many toothpicks are needed for five triangles in the same pattern?

How many toothpicks are needed for ten triangles in the same pattern?

Tell how you know.

## High School Task

1. Person A sets out in a car averaging 60 mph. Starting two hours later, person B tries to catch up. If person B's car averages 80 mph, how long does it take to catch up?
2. Solve Problem 1 in as many ways as you can.
3. Suppose we replace the speed of person B's car of 80 mph with a parameter:  $w$ . Now solve the problem in terms of the speed  $w$  of person B's car.
4. Interpret your solution to Problem 3.