

OPEN AND PARALLEL TASKS FOR GRADE 5

In *Great Questions: Great Ways to Differentiate Mathematics Instruction*, (2009) NCTM, Marion Small proposes big ideas for each strand of mathematics and then presents the strategy of using Open and Parallel tasks related to the same big mathematical ideas as a way to better meet the needs of all students in a classroom.

Grade 5

These differentiated tasks are based on a task titled “What’s Possible” on page 24 of *Making Sense of Problem Solving: Targeting NCTM Curriculum Focal Points, Level F/Grade 5*, (2008) Teacher to Teacher Publications, Inc.

Open Task:

One number is much larger than another number. Each number uses the digits 3, 4, and 5 only once in the number. What could the two numbers possibly be? What is the difference between those two numbers?

Parallel Task

Option 1:

Using the digits 3, 4, and 5, what is the smallest difference between two 3-digit numbers that use each digit only once in the number? How do you know this is the smallest difference?

Option 2:

Using the digits 3 and 4, what is the greatest difference between two 2-digit numbers that use each digit only once in the number?

Notes about the Grade 5 tasks:

The Open Task may be solved using whole numbers. However, some students may also consider decimal numbers. (Some Solutions: $543 - 345 = 198$; $543 - 3.45 = 539.55$)

Option 1 of the Parallel Tasks presents more of a challenge to students because they have to justify how they know they have found the smallest difference. Some students may realize that there are two different ways to arrive at the solution. (A Solution: the smallest difference is 0.09. That solution may be found with $3.54 - 3.45 = 0.09$ and also with $5.34 - 5.43 = 0.09$.)

Option 2 is less complex because students will only create 2-digit numbers. Students could compare differences between whole numbers. After that, they could use base-10 manipulatives to model decimal numbers and compute the difference. (A Solution: $43 - 3.4 = 39.6$)