Standards INSTITUTE

Rigor

Task Handout, Grade 1

"A social justice priority in mathematics education is to openly challenge deficit thinking and the institutional tools and practices that perpetuate static views about children and their mathematics competencies. Eliminating the deficit discourse by focusing on learning rather than labels is a key step toward a more just and equitable mathematics education." —*National Council of Supervisors of Mathematics and TODOS: Mathematics for All*

Conceptual Understanding Task #1

Task

Materials

- A cup for each student to represent his/her cave

- Counters

- Recording sheet

Actions

The teacher begins by counting out a certain number of counters to find the total number of counters in the whole collection. For example,
One, two, three, four, five, six, seven, eight nine, ten. There are ten counters all together.
This number should be small enough that the students have already found sums equal to that number, for example, 10. The teacher then hides some in the cup, calling it a cave. The students are shown how many counters are remaining outside of the cup, but not how many are in the cup. The number outside of the cup is called the part that they know.

Next, the teacher shows the students an equation like this

$10 - \underline{} = 6$

if the teacher is hiding 4 counters. The students need to find the missing number. By adding, or counting on to 6, the students determine that the teacher is hiding 4 counters. The equation is completed, and checked for accuracy by seeing how many counters are hidden under the cup.

The students are then asked to help the teacher find another way to play the game with the same total number and a different part that they know. The goal is to find all the subtraction equations for the total they started with. When the teacher determines that the students understand the procedures of the game, they may play independently or in partners.

Conceptual Understanding Task #2

Task

Malik is given a list of numbers:

<div align="center">

1   5   10   50   100

</div>

He wants to include the following numbers so all numbers will be listed in order from least (on the left) to greatest (on the right):
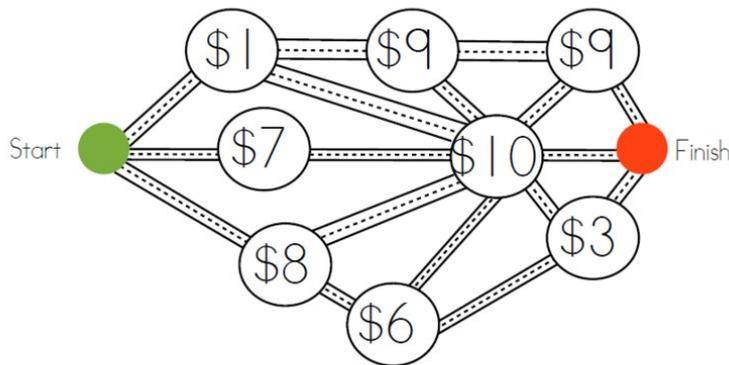
<div align="center">

49, 7, 22, 98, and 3

</div>

Where in the list should he put each of these numbers?

Procedural Skills and Fluency Task #1

Task

The attached graphic shows a map. You must get from start to finish by visiting three of the dots, at each dot you have to pay the specified number of dollars. If you have $20 can you get from start to finish and visit three dots?

Bonus Question #1: Can you find a way to get from start to finish and spend all $20? Can you find a way to get from start to finish and spend less than $20?

Bonus Question #2: How many different routes can you find from start to finish that go to three dots and cost $20 or less?

Procedural Skills and Fluency Task #2

Problem Set

4. Fill in the missing numbers in the sequence.

a.

115, 116, _____, _____, _____

b.

_____, _____, 118, _____, 120

c.

100, 101, _____, _____, 104

d.

97, 98, _____, _____, _____, _____

Application Task #1

Problem Set

2. Willie picked 16 apples in the orchard. Emi picked 10 apples in the orchard. How many more apples did Willie pick than Emi?

Application Task #2

Task

a. There are 8 children and 6 chairs. A child sits in each chair. How many children won't have a chair?

b. There are 8 children and some chairs. A child sits in each chair. Two children don't have a chair. How many chairs are there?

c. There are some children and 6 chairs. A child sits in each chair. Two children don't have a chair. How many children are there?

d. There are 8 children and 10 chairs. A child sits in each chair. How many empty chairs are there?

e. There are 8 children and some chairs. A child sits in each chair. Two chairs are empty. How many chairs are there?

f. There are some children and 10 chairs. A child sits in each chair. Two chairs are empty. How many children are there?