Difficult Subtraction Facts
Check Your Understanding

One indicator of how well a student understands difficult subtraction facts is to compare a student's work and explanation for a problem with how other students have responded to the same problem. Students, parents, and teachers can use the following problem and sample responses to evaluate understanding.

Directions for the Student:

1) Solve the following problem and explain your work and answer.
2) Compare your work to the sample responses in order to determine if your work indicates deep, partial, or beginning understanding.

Problem:

Talia had $13. She spent $8 on a snack. How much money does she have left?

Level of Understanding	Sample Student Response	Comments
Deep Understanding	**Student 1:** "I know that 5 + 8 is 13, so she has $5 left."	This student is using a known fact to help solve an unknown fact. In this case, the known fact was an addition fact. This indicates the student understands the relationship between addition and subtraction and is using the knowledge of addition flexibly to help solve subtraction problems.
	Student 2: "Eight and 2 more is 10. Then 3 more is 13. That's 5 more, so she has $5 left."	This student recognizes that adding is one way to solve a subtraction problem. That indicates an understanding of the relationship between addition and subtraction. This student is also using ten to simplify the problem. Adding on to 8 to make 10 is easier than adding up to 13. Adding the other part, from 10 to 13, is also easy. This strategy is one that helps students make sense of subtraction with larger numbers.

Difficult Subtraction Facts
Check Your Understanding

Level of Understanding	Sample Student Response	Comments
Partial Understanding	**Student 3:** "I started at 13 and counted back 8. 12, 11, 10, 9, 8, 7, 6, 5. She still has $5." This student counted fingers to keep track of the number that had been counted back.	Counting back is generally the first strategy that students use to solve subtraction once they get past counting all. This is more efficient, but just the next step towards learning to use even more efficient strategies.
	Student 4: "I counted from 8 up to 13 to see how many that is. 9, 10, 11, 12, 13. That's five more, so she has $5 left." This student kept track of how many extras had been counted by using fingers.	Counting up works well if the numbers are close. This approach can be used to help make change. It is the first step towards making sense of using addition to help solve subtraction problems.

Level of Understanding	Sample Student Response	Comments
Beginning Understanding	**Student 5:** "I counted to 13 on my fingers, then I took 8 away and counted what was left. That's 5. So she has $5."	This is directly modeling the problem, but then counting all the objects by ones. It works, but it is very inefficient when you are subtracting large numbers.
	Student 6: "I guessed 6."	Guessing is not an acceptable response to the basic facts. That response is an indicator that the student may have given up trying to make sense of addition and is just trying to get any answer so the task can be put away. An incorrect guess is easier for these students than taking the time to try to make sense.