Math 3003
Cognitively Guided Instruction Study Guide/Practice Test   Name _____

Identify the following CGI problem types.

1.   Lashonda had some shells in her bag. At the beach, she found 5 more shells and put them in her bag.
        Now she has 12 shells in her bag. How many shells did Lashonda have in her bag at first?

        _____

2.   There were 28 children on the school bus. Some children got off. Now there are 16 children on the bus.
        How many children got off the bus?

        _____

3.   Juan has 13 Skittles. He has 4 more Skittles than Maria. How many Skittles does Maria have?

        _____

4.   The zebra is 5 feet tall, and the giraffe is three times as tall. How tall is the giraffe?

        _____

5.   Eighteen children are going to the zoo. Five children can ride in each car. How many cars are needed for
        all the children to go to the zoo?

        _____

6.   There are 6 girls and 8 boys on a recreational league soccer team. How many children are on the soccer
        team?

        _____

7.   Lydia had 7 candies. She ate 3 of them. How many candies does she have left?

        _____

8.   Will has 17 stickers. Patti gave him 12 more. How many stickers does Will have now?

        _____

9.   What's the answer?   23 ÷ 5

(a) I have $23. Each plant costs $5. How many plants can I buy? _____

(b) On a field trip, we plan to take 1 adult for each group of 5 children. If 23 children are going on the trip, how many adults should go? _____

(c) A student earns $23 for 5 hours of work. How much did the student earn for each hour of work? _____

10.   (a) Griffin can walk 4 miles in one hour. How many hours would it take for him to walk 10 miles if he keeps the same pace?

(b) Drew can bicycle 40 miles in 2 hours. What is his average speed in miles per hour?

11.   Use the division problem 34 ÷ 6 to write four story problems with the following answers.

(a) 6

(b) 5

(c) 4

(d) 5 $\frac{2}{3}$

(e) $5.67

12.   (a) When a child counts 10, 20, 30, 40, 50, 51, 52, 53, this is an example of _____ counting or counting by tens (and then counting by ones).

(b) When a child adds, for instance, 28 + 35, by saying something like "20 and 30 make 50. 8 more than 50 is 58. Then 2 more is 60. Then 3 more than that is 63. The answer is 63.", they are using _____ .

(c) When a child adds, for example, 44 + 37, by saying something like "40 + 30 is 70. Then 4 plus 7 is 11, and 70 plus 11 is 81. The answer is 81.", they are using _____ .

13.   The first method that a student naturally uses for problems involving addition, subtraction, multiplication, and division is _____ _____ . When using this strategy, children use their fingers, counters, tally marks, Unifix cubes or base 10 blocks, or pictures to concretely represent all of the numerical quantities in the problem. With these objects or images, students use joining strategies such as joining all, joining to, and _____ & _____ joining. They also use similar separating strategies and _____ as a primary comparing strategy.

The next level of strategies that students used is counting. This includes joining strategies such as counting on from first and counting on from _____ , separating strategies such as counting _____ , and comparing strategies.

14.   The highest level of children's problem solving strategies is base _____ understanding and _____ algorithms. Here, students derive and recall facts and concepts.

15.   Add 28 + 53 using evidence of your own base 10 understanding. Use at least 3 different strategies.

(1)

(2)

(3)

16.   Multiply 28 × 53 using evidence of your own base 10 understanding. Use at least 2 different strategies.

(1)

(2)

17. Complete the following table involving a problem for each problem type below, along with the corresponding open sentence.

Problem	CGI Problem Type	Open Sentence
	Compare: Difference Unknown (CDU)	$20 - 12 =$ _____
	Separate: Start Unknown (SSU)	_____ $- 15 = 24$
		$4 \times 3 =$ _____
Grandma had 60 strawberries. She gave each neighborhood child 5 strawberries. How many children were there?		
Mom had some cookies. Dad gave her 8 more cookies. Now she has 14 cookies. How many did she have at first?		
	Partitive Division	$30 \div 6 =$ _____ or $6 \times$ _____ $= 30$
	Join: Change Unknown (JCU)	$9 +$ _____ $= 17$
Connie has 15 marbles. Six are red and the rest are blue. How many blue marbles does Connie have?		
	Compare: Quantity Unknown (CQU)	$8 + 15 =$ _____ or _____ $- 15 = 8$