**Finding and using structure:**

For each of 1-3 figure out a way to do the computation that could be a mental math strategy (probably different from the standard algorithm). Show your process, and explain how it uses the structure of numbers together with the properties of addition, subtraction and multiplication.

1. 28 + 35 =

2. 91 – 42 =

3. 19 × 3 =

4. Choose a strategy from the video <http://www.insidemathematics.org/classroom-videos/public-lessons/4th-grade-number-operations-multiplication-division/problem-3-part-b>

to solve 26 × 4 =, and explain how the strategy uses the structure of the numbers and/or properties of addition, subtraction and multiplication.

For each of 5-8 figure out a way to say whether the equation is true or false using relational thinking (rather than doing all of the computations). Explain the number structures and properties you used.

5. 24 + 78 = 78 + 20 + 2 + 2

6. 7 × 18 = 18 + 18+ 18+ 18+ 18+ 18+ 18+ 18

7. 60 × 48 = 6 × 480

8. 278 + 96 = 280 + 98

For each of 9-12, figure out a way to find the missing number using relational reasoning (rather than doing all of the computations or formal algebra). Explain the number structures and properties you used.

9. 97 – 18 = 100 – 18 - 

10. 20 × 7 = (19 × 7) + 

11. 43 + 28 =  + 42

12. 63 – 28 = 60 – 20 + 3 - 

For 13, watch the part of this lesson (where children are discussing 32 + 28 = 33 + 27), starting at 12:00 (12 minutes in):

<http://www.insidemathematics.org/classroom-videos/number-talks/4th-grade-math-can-this-be-true/number-talk>

Describe one of the relational ways that children explained why the number sentence is true.