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| **Solving One-Step Addition and Subtraction Equations** |
| Understands balance as equality“5 + 6 equals 11.” | Uses concrete materials to solve for unknown4 + 🞏 = 10“I added red cubes, one at a time, until the pans balanced; 🞏 = 6.” | Uses number relationships (inverse operations)28 = 🞏 − 15“I rewrote the equation as an addition equation: 28 + 15 = 🞏.” |
| **Observations/Documentation** |
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| **Solving One-Step Addition and Subtraction Equations (con’t)** |
| Decomposes and recomposes numbers (uses associative property) 28 + 15 = 28 + 2 + 13 28 + 2 + 13 = 30 + 13 30 + 13 = 43 | Describes a situation for a given equation with an unknown 20 − 🞏 = 13“I had $20. I spent some money and now I have $13. How much did I spend?” | Uses strategies efficiently and flexibly to solve equations of different types (start, result, and change unknown) 27 = ∆ − 18“I rewrote using addition: 27 + 18 = ∆.Then, I used mental math: 27 + (18 + 2) = 47,and 47 – 2 = 45.” |
| **Observations/Documentation** |
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| **Variables and Symbols** |
| Uses equal sign as balance (left side equals right side) and not equal sign as imbalance18 + 16 = 10 + 2418 + 16 ≠ 24 – 10“The equal sign means that the numbers on both sides are worth the same amount.” | Uses symbols to represent unknown quantities18 + 🞏 = 34“I used a box to represent the unknown, but I could have used a different shape.” | Understands the unknown represents one quantity/value 18 + 🞏 = 34“The box represents a number that would be added to 18 to make 34. No matter what the symbol is, it will always represent 16.” | Solves equations flexibly18 + 🞏 = 3434 − 🞏 = 1834 – 18 = 🞏“In all of these equations, the symbol represents the same number, 16.” |
| **Observations/Documentation** |
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