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| **Multiplication with 0.01 and 0.1** | | | |
| Explores and generalizes patterns using place-value relationships.  21 × 0.01  21 × 0.1  21 ×1  21 × 10  21 × 100  What patterns do you notice?  “I see a growing pattern.  The multiplier is 10 times bigger than the previous multiplier each time.” | Uses place-value patterns and multiplication properties to solve equations.  21 × 0.01 = ?  43 × 0.1 = ?  “I know that to multiply by 0.01, I move the digits two place-value positions to the right:  21 x 0.01 = 0.21.  To multiply by 0.1, I move the digits one place-value position to the right: 43 x 0.1 = 4.3.” | Uses mental math to solve multiplication problems.  Jeremiah wants to add a 20% tip to the bill. Use this equation to calculate how much money Jeremiah will leave as a tip: $48 × 0.20 = ?  “I know how to multiply by 0.1,  so I rewrote the equation as:  $48 × 0.1 × 2.  $48 × 0.1 = $4.80 and  $4.80 × 2 = $9.60.  Jeremiah will leave $9.60 as a tip.” | Solves multiplication problems flexibly, using a variety of strategies.  Determine 4 × 0.6.  “I used doubles:  4 × 0.6 = 4 × 0.3 × 2  4 × 0.3 = 1.2  1.2 × 2 = 2.4  So, 4 × 0.6 = 2.4” |
| **Observations/Documentation** | | | |
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