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| **Determining Term Numbers and Term Values** |
| Determines missing elements in linear and non-linear patterns1, 2, \_\_, 8, 16, 32, \_\_\_, 128“I can see that each term is twice as great as the previous term. So, the missing terms are 4 and 64.” | Writes and uses an equation to determine pattern valuesWhat is the value of this pattern when *x* = 50?“An equation to represent this pattern is *y* = –2*x* + 9.When *x* = 50, –2*x* + 9 = –2(50) + 9 = –91When *x* is 50, *y* is –91.” | Writes and uses an equation to determine a term number when term value is knownThe equation y = –2x + 9 represents a pattern.Which term in this pattern has a value of –41?“I need to find a value of *x* so that –41 = –2*x* + 9.This means that –41 is 9 greater than –2*x*. So, –41 – 9 = –2*x*, or –50 = –2*x*.Using mental math, this is *x* = 25.” | Develops and uses linear equations to solve applied problemsSky pays an annual gym membership fee of $50 and monthly fees of $25. Write an equation to describe the total cost. If Sky keeps their membership for 8 months, how much will they have spent?“I’ll let the number of months Sky is a member be *x*. The total cost of membership is *y* = 50 + 25*x*.When *x* = 8, *y* = 50 + 25(8) = 50 + 200 = 250Sky will pay $250 for 8 months of membership.” |
| **Observations/Documentation** |
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