Patterns and Relations

Activity 3 Assessment

Determining Term Numbers and Term Values

Determining Term Numbers and Term Values			
Determines missing elements in linear and non-linear patterns 1, 2, 4, __, __, 32, ___, 128 "I can see that each term is twice as great as the previous term. So, the missing terms are 8, 16, and 64."	Writes and uses an equation to determine pattern values What is the value of this pattern when $x = 50$? x | y 0 | 9 1 | 7 2 | 5 3 | 3 "An equation to represent this pattern is $y = -2x + 9$. When $x = 50$, $-2x + 9 = -2(50) + 9$ $= -91$ When x is 50, y is –91."	Writes and uses an equation to determine a term number when term value is known The 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 $-41 = -2x + 9$. This means that –41 is 9 greater than $-2x$. So, $-41 - 9 = -2x$, or $-50 = -2x$. Using mental math, this is $x = 25$."	Develops and uses linear equations to solve applied problems Sky 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 $y = 50 + 25x$. When $x = 8$, $y = 50 + 25(8)$ $= 50 + 200$ $= 250$ Sky will pay $250 for 8 months of membership."
Observations/Documentation			