Name: _____ Date: _____

BLM 5–4

Chapter 5 Problems of the Week

1. The numbers 4, b, c, d, e, 39 make an arithmetic sequence. What is the sum of b and c?	**2. a)** If $a = x^2$, $b = x$, and $c = 1$, what is the difference between $2a + 2b + 2c$, and $a + b + c$? **b)** In part a), if $x = 1$, what is the difference between the two?
3. Susan has twice as many dimes as nickels, and five times as many pennies as dimes. If she has 70¢ in total, how many of each coin does she have?	**4.** Triangular numbers are 1, 3, 6, 10, 15, … . A pattern is derived from the triangular numbers that produces the following numbers: 4, 36, 144, … . Find the algebraic expression that describes this pattern.

5. The distance travelled by an object falling on Earth is equal to $\frac{1}{2}at^2$, where a is the acceleration due to gravity, and t is time, in seconds. On Earth, the acceleration due to gravity is about 10 m/s^2. If the gravity of the moon is $\frac{1}{6}$ the gravity of Earth, how will that affect the polynomial for distance? Write a polynomial that could be used to find the distance an object falls in a given amount of time on the moon. Write a sentence that describes the difference between the Earth and the moon's version of the polynomial.