BALANCE QUEST

	B	A	L	A	N	C	-3	-1
2	7						E	-3
4		26				-11		-5
6	15							-7
8						-19		-9
10	23		U	E	S	T		-11
12							-27	-13
14	31	Q						-15
16								

A Numeric Progression Puzzle

By:

1	W	h	i	t		w.
3					-7	-2
5	11					-4
7	c	M	a	h	a	-6
M						n

Balance Quest

A **Balance Quest (BQ)** puzzle is a grid of rectangles (or "boxes") arranged in a hierarchical fashion. Some of the rectangles have positive or negative integers in them, while others are blank. The grid is divided into two shaded (grey) end regions and one central white region, which are each further subdivided into rectangles (*See examples in the instructions sections*).

The objective of a Balance Quest puzzle is to fill in each blank rectangle with an integer in a way that "balances" the puzzle mathematically according to the puzzle rules. Solving the puzzle correctly requires knowledge of positive and negative addition.

There are three alternative puzzle grid sizes to suit the player, determined by the number of rectangles in the shaded regions, either: 16, 32, or 64. Therefore, the three available puzzle grid sizes are:

> **"BQ Sixteen" (small-grid)**
> **"BQ Thirty-two" (medium-grid)**
> **"BQ Sixty-four" (large-grid)**

Puzzle Rules:

The puzzler's job is to enter either a positive or negative integer into each "blank" rectangular box in such a way that:

1. The value in each white box equals the sum of its adjoining half-height boxes.
2. Based on puzzle size, the shaded boxes must <u>include all</u> non-zero integers from either:
   a. -8 to 8 (for small-grid puzzles)
   b. -16 to 16 (for medium-grid puzzles)
   c. -32 to 32 (for large-grid puzzles)
3. No duplicate numbers may exist among the white boxes, or among the shaded boxes, but duplicate numbers may exist between the white and shaded boxes.

A Balance Quest puzzle is a learning or mind-sharpening tool for ages 10+. In principle, as the mind quickly shifts between addition and searching for duplicate integers, the left (analytical) and right (intuitive) sections of the brain are exercised rapidly. A solution may begin in a simple way and become *tricky* as the puzzler progresses. Comparing the puzzler's solution to the actual solution may be quite surprising.

<u>There is one correct solution to each puzzle.</u> Solve time may range from five minutes up to hours for the large challenging puzzles. Please be sure to choose a pencil with a "good eraser". *Best of Luck...*