Faded Kropki Sudoku by Bill Murphy

Rules: Insert a number from 1 to 9 into each cell so that no number repeats in any row, column, or bold region. If a circle is given between two adjacent cells, then it either means that (A) the two numbers in those cells must differ by 1, or (B) the two numbers must have a ratio of 2. Pairs of cells without circles can have any relationship.