# Lesson 3

Using Pencil Marks

Pencil marks are a tool that helps you keep track of what numbers are possible for a square. Let's use this grid as an example. Pencil marks are specific to each square, so for now let's focus on square F5.

The first step is to identify all the numbers that can't go in F5, then note – as pencil marks – the others. Starting with row 5, numbers

6, 3, 7, and 2 are already present (so F5 can't be one of those). Column F expands on that list by adding 5 and 9. The final component is box 5. This contains 3, 7, and 5 (which were already on the list). In numeric order, the numbers F5 *can't* be are 2, 3, 5, 6, 7, and 9. So the only possibilities left for F5 are 1, 4, and 8. These are the pencil marks for that square.

Sudoku OTW allows you to set pencil marks from the control panel. On the panel, the row (or column,
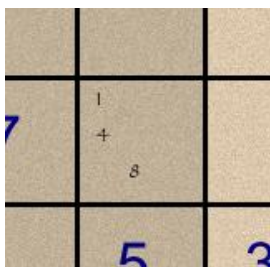
depending on how you hold the device) that contains the small numbers are used to set or clear pencil marks. Using the example above, you would want to tap on square F5, then tap pencil mark buttons 1, 4, and 8. That would make the square appear as shown here.

The pencil marks for each number always appear in the same place (for example, 8 is always in the bottom row center of the pencil marks). This allows you tell with a quick glance what pencil marks have been set for the square.

Pencil marks can be useful in two ways. First, they remind you what numbers are possible values for the square. Secondly, they can help you notice patterns between squares, and thereby eliminate numbers further The rest of the lessons use pencil marks to do this.

As you solve the puzzle and assign numbers to squares, the state of the board changes, and you have to update your pencil marks accordingly. Continuing with our example above, if you put a 1 in column F, then F5 could no longer be a 1. Sudoku OTW helps you with this by providing you automatic pencil marks.

The Auto Mode

Press the AUTO button to select the Automatic Pencil Marks mode. When this is on, Sudoku OTW will look at each cell, evaluate the possible numbers based on the values in the row, column, and box, then set the pencil marks automatically. Further, as you continue to modify the board as you play the game, Sudoku OTW adjusts the pencil marks to the updated board.

The next lesson covers **Single Instance Pencil Marks**.