FIGURE C.5.10 (Top) A 1-bit ALU that performs AND, OR, and addition on a and b or $\bar{b}$, and (bottom) a 1-bit ALU for the most significant bit. The top drawing includes a direct input that is connected to perform the set on less than operation (see Figure C.5.11); the bottom has a direct output from the adder for the less than comparison called Set. (See Exercise C.24 at the end of this Appendix to see how to calculate overflow with fewer inputs.)