

Discovery Exercise for Matrix Times Matrix

1. An LCD screen contains 10,000,000 transistors and 3000 feet of wire; a circuit board contains 100,000,000 transistors and 100 feet of wire; a knob contains 1 transistor and no wire. Write a labeled matrix designed to convert from “number of screens, circuit boards, and knobs” to “number of transistors and wires.”
2. A computer monitor contains 1 LCD screen, 3 circuit boards, and 1 knob. A TV contains 1 LCD screen, 5 circuit boards, and 7 knobs. Write a labeled matrix designed to convert from “number of monitors and TVs” to “number of screens, circuit boards, and knobs.”
3. If you have 1 monitor and 1 TV, how many transistors and wires do you have?

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4. If you have M monitors and T TVs, how many transistors and wires do you have?
5. Write a labeled matrix designed to convert from “number of monitors and TVs” to “number of transistors and wires.”