
Student Success \ Math & Physics and Biology

KAVEH FARROKH (PH.D.)

Math Basic Skills: Experts vs. Novices

BASIC SKILLS (I): NUMBER FACTS

Number Facts: frequently used sums, differences, and products you must know.

Experts:

- Are faster at retrieving these.
- Are more automated.

Number sense: making numbers and number systems meaningful.

- Needed for good problem solving strategies.

BASIC SKILLS (II): ALGORITHMS

Algorithms: sequence of steps, that if performed correctly, will achieve desired outcome with 100% accuracy.

Experts:

- Are faster at retrieving these.
- Are more automated.

Novices:

- Have more “bugs” in their procedures.

Linear algebra:

- Many steps composed into automatic algorithm.
- Experts are faster and more accurate with procedures.