







## GLOSSARY

### Algebraic Modeling

Produce an algebraic expression (involving symbolic variables, and perhaps relations ( $=$ ,  $<$ ,  $\leq$ , etc.) from:

- A word description (story problem)
- Numerical data
- Geometric data
- A table

**AMw**  
**AMn**  
**AMg**  
**AMt**

**Variables**                    **#V** = number of them (**nV** = n variables, n = 1,2,3,...)

- Words (verbal)
- Icons (pictures – like boxes, triangles, circles, houses, ....)
- Symbols (usually letters)

**#Vw**  
**#Vi**  
**#Vs**

### Functions

- Linear
- Algebraic (non-linear), like quadratic, powers, rational, etc.
- Exponential
- Periodic
- Inverse (usually of linear functions)

**Fl**  
**Fa**  
**Fe**  
**Fp**  
**Fi**

**Equations and Inequalities**                    **#E** or **#I** = the number of them

- Linear
- Algebraic (non-linear), like quadratic, rational, etc.
- Integer inequalities (usually linear), involving round-off

**#El** or **#Il**  
**#Ea** or **#Ia**  
**II**

### Evaluate

- A numerical expression  
(order of operations, convert between decimals and fractions, simplify fractions, etc.)
- An algebraic expression  
(substitution of variables and evaluation of the resulting numerical expression)
- Estimate

**Evn**  
**Eva**  
**Est**

## Extending Patterns

**EP+1:** Extend to next term

**EPf:** fill in missing terms

**EP+N:** Extend to distant term

**EP+∞:** Describe general term

- Numerical
- Geometric
- Symbolic

**EnP..**  
**EgP..**  
**EsP..**

## Concepts and Topics

- Number theory (even numbers, primes, divisibility & factorization, ....) **NT**
  - Even and odd numbers
- Statistics notions (mean, median, ...)
- Coordinates (plane)
  - Given coordinates, plot points
  - Given points (geometrically), determine coordinates
- Coordinate (combinatorial, and transformational) geometry  
(parallel and perpendicular lines, counting features of geometric objects, like diagonals of a polygon, rotations, lines of symmetry, etc.)

**ev**  
**St**

**CP**  
**PC**  
**CG**

## Practices

- Explaining (why a mathematical claim is true, or a solution is valid)
- Logical reasoning (and problem solving)

**Exp**  
**Log**