Trait Alchemy

There is no method to being a good Mathematician. Nevertheless, there is no harm in trying to find one. This is a list I maintain of traits I am observing are good to have.

Traits

A. Orientation
   Do you have a goal? A constant number of things to relate other things to and pursue?
B. Cleverness
   Are you able to solve (prove) difficult but specific clearly posed problems?
C. Inventiveness
   Are you able to invent objects currently not invented to help solve specific problems? (Complex numbers, Dedekind Cuts, limits, etc...)
D. Exploration
   Do you go further than others exploring using your current knowledge? Leaving no stone unturned
   (Euler in Fundamentals of Differential Calculus, or Fundamentals of Algebra)
E. Application
   Do you take newly acquired discoveries and apply them to possible known but not obviously related problems?
F. Observation
   Do you see patterns that others, looking at the same thing, did not see? (e.g: Euler's sharp eye for patterns) This also includes
   a. Distillation (zooming out to see a pattern)
   b. Discernation (zooming in to see that one thing is actually a bunch of other things)
G. Retention
   Are you able to retain facts despite the fact that they do not seem immediately useful?
H. Openness
   Do you transcend the boundaries of your problem and search in unexpected places? (e.g Poincare: "brought together in a completely unexpected way the subjects of complex function theory, linear differential equations, Riemann surfaces, and non-Euclidean geometry")
I. Knowledge
   Do you know a lot?
J. Boldness and Extrapolation
   Are you willing to boldly extrapolate now, and accept to solidify later? (e.g: Calculus)
K. Stubbornness and Precision
   Are you willing to stubbornly stay put until you figured a hairy problem out when there are lowed hanging fruits in the distance if you accept some hand waving and move on? (e.g: to do: find the quote I have in mind)
L. Controlled Schizophrenia (Colorfulness)
   Are you able to switch between extremes of contradicting traits (like Boldness and

Stubbornness) and not stick to one?

M. Experimentation
N. Philosophy. Here also we notice that apart from the general trait, there are at least two subtraits
    a. Creational philosophy: philosophically arriving at conclusions that are at the base of newly created structures. (Dedekind)
    b. Transformational philosophy: philosophically arriving at conclusions following a close examination of relations, helping unravel them or transform them to more accessible forms. (Euler)
O. Representational Fluency. A trait I was not able to pinpoint exactly myself although I was circling around it: “One reason for this strong emphasis is that, according to Lesh (2000, p. 74), the idea of representational fluency is “at the heart of what it means to ‘understand’ many of the more important underlying mathematical constructs”. (Stewart - Thomas, Eigenvalues and Eigenvectors: Formal, Symbolic and Embodied Thinking)

Relations

i. Cleverness builds on Orientation.
ii. Application builds on Inventiveness.
iii. Inventiveness builds on Observation, Openness.
iv. Orientation builds on Extrapolation, Application.
v. Most build indirectly on Retention.
vi. Retention can build on Orientation (by building relations).
vii. Knowledge builds on most.
viii. Exclusively high Boldness or Stubbornness without Colorfulness is probably bad.

Notes

1. Cleverness should not be confused with observation and inventiveness.

Jad’s Self Score (out of 5), Total: 18/70.

A:4, B:3, C:0, D:0, E:n/a, F:1, G:2, H:0, I:1, J:0, K:3, L:0, M:1, N:3