NYSED/CUNY Fast Track GRASP Math Learning Modules

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These modules were designed to be used in any of the following program models:

- GRASP distance learning (24 hours per packet)
- Fast Track math classes
- Traditional ABE/HSE math classes (in class or as additional independent work)

The packets provide practice in the high-priority topic areas on the TASC, as identified by subject experts from the New York State Department of Education. Students develop underlying concepts as an introduction to each topic and then practice applying what they have learned in context. Students work through TASC-style questions followed by guidance on test-taking skills and explanation of answer choice design. Each packet provides instruction on the language of the math topic, which is helpful for all students, and especially for lower-level students and English Language Learners.

These are the 8 subject areas to be completed by early 2019. Each subject area is divided into part one and part two, for a total of 16 packets.

We are interested in feedback from teachers who use the materials.

The modules are listed below with examples of the topics included:

Density

Density Part 1 (Population Density) — Available now!

- area
- population density
- rate: per = “for every”

Density Part 2 (Density of Matter) — Available now!

- volume
- density of matter
- measurement conversion

Transformations: Shapes on a Plane - Part 1 & Part 2 — Available now!

- coordinate grid
- rigid transformations: reflection, translation, rotation
- congruence

The Fast Track GRASP Math Packets were made possible through support from the New York State Education Department, Office of Adult Career and Continuing Education Services.

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The Power of Exponents - Part 1 & Part 2

- squares/square roots
- cubes/cube roots
- fractional (½ & ⅓) and negative exponents
- rules for exponents
- exponential growth & decay
- pythagorean theorem

Lines, Angles, & Shapes: Measuring Our World - Part 1 & Part 2

- geometry definitions (parallel, perpendicular, angles, lines, perimeter vs area vs volume)
- shapes and composite shapes
- volume of rectangular prisms
- similar triangles
- pythagorean theorem

Evaluate Algebraic Expressions & Solve Simple Equations - Part 1 & Part 2

- match expressions/equations with context/situations
- inequality notation
- area models for combining like terms & the distributive property
- explain steps when solving simple equations
- evaluate volume formulas
- systems of equations (guess and check, using a graph)

Linear Functions - Part 1 & Part 2

- what is and what is not a function
- three views of linear functions (rule/equation, graph, table)
- rate of change and starting amount (in context)
- function notation
- creating and interpreting linear functions

Non-Linear Functions - Part 1 & Part 2

- features of graphs of quadratic, and exponential functions
- matching situation to graph/graph to situation
- comparing linear and nonlinear functions
- matching graph to function

Statistics & Probability - Part 1 & Part 2

- benchmark percents (50%, 25%, 10%, 1%)
- measures of central tendency
- two-way relative frequency tables
- basic probability
- random sampling

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