### New York State Education Department

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The TASC Test Math Subtest is one of five subject area tests (Reading, Writing, Mathematics, Science and Social Studies) required for the High School Equivalency (HSE) Diploma. The test measures national educational standards, and is available in paper-based or computer-based formats. This guide provides an overview of the TASC Math Subtest.

### Highlighted terms in this brochure can be used for internet searches to find free study materials.

The test is in two parts. Part I allows use of a calculator, Part II does not. You have 90 minutes to answer around 55 questions; most are multiple-choice, with a few gridded-response items.

When you take the test, you may find some difficult questions, but do not get discouraged. Do your best to answer all of the questions.

### What to Know

This guide shows some broad topic areas and provides examples of math that may be on this test. It does not include every type of problem. Below, find several math formulas, concepts and terms to know and understand.

### Formulas, Concepts, and Terms

**Formulas**

- Finding Distance, Rate, or Time (d = rt)
- Simple Interest Problems (I = prt)
- Pythagorean Theorem \((a^2 + b^2 = c^2)\)

**Area Formulas:**

- Area of a rectangle \((A = lw)\)
- Area of a triangle \((A = \frac{1}{2}bh)\)
- Area of a circle \((A = \pi r^2)\)
- Volume of a rectangular prism or box \((V = lwh)\)

**Concepts**

- Rounding numbers to a specific place value
- Finding the slope of a line
- Plot points on a graph
- Function notation
- Understanding the relationship of lengths, areas, and volumes
- Rational versus irrational numbers
- Evaluate functions for a given value

**Terms**

- average rate of change
- cone
- congruent coordinates
cylinder
density
difference
dilations
-domain of a function
-horizontal
-integers
-maximum
-mean (average)
-median
-minimum
-origin
-coefficient
-parallel
-perpendicular
-Pi (\(\pi\), approximately 3.14)
-product
-pyramid
-quotient
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-reflections
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-sampling bias
-spheres
-sun
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-vertex
-vertical
-vertices

**Locate a Prep or Test Center at**

http://www.acces.nysed.gov/what-hsetasc-test

At this website, find information about how to register for the TASC test and earn your High School Equivalency Diploma. There is also information about how to get help with preparing to take the HSE exam. Many preparation programs offer free classes.

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### Calculators and Math Reference Sheets

A TI-30XS calculator will be provided for the test. You may not use your own calculator. The calculator has many scientific functions. One way to become familiar with the calculator before taking the TASC test is to visit www.tasctest.com to see both the Calculator and Math Reference Sheets.

### Passing Scores for the TASC Math Subtest

The passing score is 500 for each TASC subtest—plus a minimum score of 2 on the Writing Subtest essay. You pass the TASC test when you pass each of the five subtests.

### About the Examples:

The TASC Math Subtest measures high school-level math skills. Many of the questions require using multiple steps and skills, and applying the information to real-world situations. The examples in this brochure show skills used to answer TASC Math Subtest questions.

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### The New York State High School Equivalency Test

#### Examinee Guide to the Test Assessing Secondary Completion™

**TASC Test Math Subtest**

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The TASC Math Subtest consists of multiple-choice questions requiring the use of knowledge of arithmetic operations, algebra, geometry, and statistics; and the use of a calculator. The questions are designed to measure a wide range of mathematical skills that are necessary for a high school graduate.

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Algebra (26%)

Evaluate an algebraic expression for given values:
Evaluate $2x^2y^3$ when $x = −2$ and $y = −3.$
$2(−2)^2(−3)^3 = 2(−8)(−27) = −144$

Apply the rules of exponents:
$(x^a)^b = x^{ab}$
$(x^a)(x^b) = x^{a+b}$
$\frac{x^a}{x^b} = x^{a−b}$

Steps to solve equations:
$−4(3x − 2) = 2x − 20$
$−12x + 8 = 2x − 20$
$12x + 20 = 2x + 20$
$x = \frac{20}{12}$
$x = \frac{5}{3}$

Solving formulas for a specific variable:
$8x + 4y = −3$
$8x + 4y = 3$
$\frac{8x + 4y}{8} = \frac{3}{8}$
$\frac{8x}{8} + \frac{4y}{8} = \frac{3}{8}$
$\frac{1}{2}x + \frac{1}{2}y = \frac{3}{8}$

Do these tables represent functions?

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

This is a function. Every input maps to a single output.

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

This is not a function. The input “5” maps to two different outputs.

Functions (26%)

Distinguish functions from non-functions: Functions show how an input number is matched, or mapped, to an output number. If any input number maps to more than one output number, then the relationship is not a function.

What is a function?

Inputs Outputs
This is a function. Every input maps to a single output.
This is not a function. The input “5” maps to two different outputs.

Statistics and Probability (12%)

Probabilities as fractions, decimals, and percentages:

What is the probability of winning a lottery drawing if you buy 5 tickets?
$
\frac{5}{200} = 0.025 \text{ (This means there is a 2.5% chance of winning the lottery if you buy 5 tickets.)}
$

Probabilities for multiple events ("and" and "or")

The probability of rolling a "four" is $\frac{1}{6}$. The probability of rolling an "odd number" is $\frac{1}{2}$.

When rolling a die, what is the probability of getting a "four" or an "odd number?"

(Add for "or")

What is the probability of getting a "four" on one roll of a die, and then an "odd number" on the next roll? (Multiply for "and")

(1/6)(1/2) = 1/12