O.G.T. MATHEMATICS: *QUICK STUDY GUIDE*

Point Values:
Multiple Choice = 1pt
Short Answer = 2 pt
Extended Response = 4 pts

Be sure to support answers for free response.

Skip questions that you're stuck on, come back at the end – LEAVE NOTHING BLANK!!!!

BEFORE THE TEST:

Get a good night sleep (8 hours is key!)

Eat Breakfast (not candy bars and soda)

Take your TIME!!!

DURING THE TEST:

Draw a picture if there's not one there.

Read the question before attempting to answer.

Try to answer before looking at the multiple choices – look to see if your answer is there.

Your FIRST answer is usually correct – DON'T CHANGE IT!

Does your answer make sense?

Test Taking Strategies:

Eliminate answer choices that look right but are planted to fool you.

Back solve by plugging the answer choices into the question being asked.

Plug and Chug: try plugging in a number instead of a letter if you're stumped by a problem.

Calculator Box:

Scientific Notation is "inverse decimal point"

Use "10 y^x number" for $10^\#$

% is "inverse ="

a b/c is the "fraction button"… (hit "=", it reduces the fraction)

Square Root is "inverse x^2"
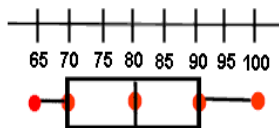

Graphing:
$y = x^2$ graphs a U-shape
      if a is positive, it's a smile
      if a is negative, it's a frown

$y = |x|$ graphs a V-shape

$y = mx + b$ graphs a line
      m = slope (rise over run)
      b = y-int

Plotting points: "y's up" wise up

(3, -6) from origin, go right 3, down 6

Box and Whiskers Graph:

The 5 dots from left to right:
Lower bound, 1st quartile, median, 3rd quartile, upper bound

Median – middle number
Mode – the number seen "MOST"
Mean – the average (add and divide by how many)

PEMDAS
Parenthesis
Exponents
Multiply and Divide
(from left to right)
Add and Subtract (from left to right)

When solving for x – use "reverse PEMDAS"

VUXHOY:

Vertical lines have an
Undefined slope
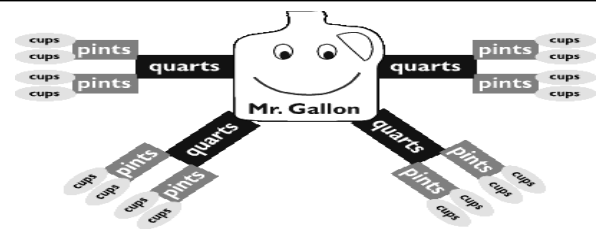**x** = #
Horizontal lines have a
0 slope
y = #

LAST MINUTE NOTES:

Probability is the measure of how likely an event is

$P(A) = \dfrac{\text{The Number Of Ways Event A Can Occur}}{\text{The Total Number Of Possible Outcomes}}$

An **outcome** is the result of a single trial of an experiment

"Go Help Quincy Pick Cherries" = Gallon, Half gallon, Quart, Pint, Cup

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I = prt   (simple interest = principal x rate x time)

D = rt   (distance = rate x time)

Tax makes things cost MORE
Discount makes things cost LESS

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Parallel Lines have the *same slope*.
Perpendicular Lines have slopes that are *negative reciprocals* (like ½ and -2)

Midpoint: (average of the x's, average of the y's)

$$\text{Midpoint} = \left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$$

Surface area of a retangular prism = area of the base + area of the top + area of each side

Difference between prism: and pyramid: *Prism has 2 bases while a pyramid has 1base*

Cylinder: Cone: Sphere:

Area = how many squares fit ON the shape

Area is in unit^2

Volume = How many blocks fit IN the object

Volume is in unit^3

Perimeter = How far around an object
Perimeter is in units

A proportion is an equation with a ratio on each side – to solve, cross multiply and divide.
Example: $\frac{x}{6} = \frac{1}{2}$

$2x = 6$

$x = 3$

King Henry Died Drinking Chocolate Milk
Kilo
Hecto
Deca
<meter liter gram>
Deci
Centi
Milli
   Make sure that your units match before you start doing calculations

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The number sets:

Natural numbers	The counting numbers	$1, 2, 3, 4, 5, \ldots$
Whole numbers	The set of natural numbers and 0	$0, 1, 2, 3, 4, \ldots$
Integers	The set of whole numbers and their opposites	$\ldots, -2, -1, 0, 1, 2, \ldots$
Rational numbers	The set of numbers that can be written as a ratio of integers	$-\frac{3}{4}, 5, -2, 0.5, 0$
Irrational numbers	The set of numbers that cannot be written as a ratio of integers	$\pi, \sqrt{10}, 8 + \sqrt{2}$