Georgia High School Graduation Tests
Mathematics Formula Sheet

Below are the formulas you may find useful as you work the problems. However, some of the formulas may not be used. You may refer to this page as you take the test.

Area

Rectangle/Parallelogram $A = bh$

Triangle $A = \frac{1}{2}bh$

Circle $A = \pi r^2$

Trapezoid $A = \frac{1}{2}(h)(b_1 + b_2)$

Circumference

$C = \pi d \quad \pi \approx 3.14$

Volume

Rectangular Prism/Cylinder $V = Bh$

Pyramid/Cone $V = \frac{1}{3}Bh$

Sphere $V = \frac{4}{3}\pi r^3$

Surface Area

Rectangular Prism $SA = 2lw + 2wh + 2lh$

Cylinder $SA = 2\pi r^2 + 2\pi rh$

Sphere $SA = 4\pi r^2$

Trigonometric Relationships

$\sin(\theta) = \frac{\text{opp}}{\text{hyp}}; \ \cos(\theta) = \frac{\text{adj}}{\text{hyp}}; \ \tan(\theta) = \frac{\text{opp}}{\text{adj}}$

Pythagorean Theorem

$a^2 + b^2 = c^2$

Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Standard Form $ax^2 + bx + c = y$

Vertex Form $a(x - h)^2 + k = y$

Expected Value

$$E(x) = \sum_{i=1}^{n} x_i p(x_i)$$

the sum of each outcome multiplied by its probability of occurrence

Permutations

$${}_nP_r = \frac{n!}{(n-r)!}$$

Combinations

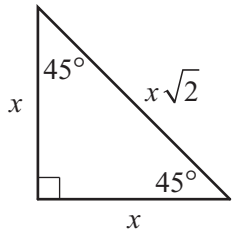
$${}_nC_r = \frac{n!}{r!(n-r)!}$$

Interquartile Range

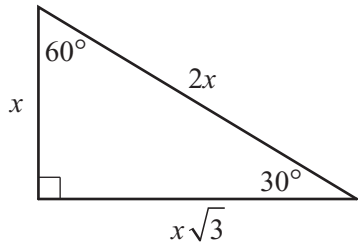
the difference between the first quartile and third quartile of a set of data

Special Right Triangles

45°– 45°– 90° Triangle



30°– 60°– 90° Triangle



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