TASC Mathematics Formulas

All Mathematics Formulas a TASC Math Test Taker Must Know!



Created by: Effortless Math Education

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Taking the TASC with only a few weeks or even few days to study?

First and foremost, you should understand that the 2019 TASC® Mathematics test contains a formula sheet, which displays formulas relating to geometric measurement and certain algebra concepts. Formulas are provided to test-takers so that they may focus on *application*, rather than the *memorization*, of formulas. However, the test does not provide a list of all basic formulas that will be required to know for the test. This means that you will need to be able to recall many math formulas on the TASC test.

Below you will find the 2019 TASC® Mathematics Formula Sheet followed by a complete list of all Math formulas you MUST have learned before test day, as well as some explanations for how to use them and what they mean. Keep this list around for a quick reminder when you forget one of the formulas.

Review them all, then take a look at the math topics to begin applying them!

Good luck!

Mathematics Reference Sheet

Cylinder: $\mathrm{v} = \pi r^2 h$

Pyramid: $\mathrm{v} = \frac{1}{3} bh$

Cone: $\mathrm{v} = \frac{1}{3}\pi r^2 h$

Sphere: $\frac{4}{3}\pi r^3$

coordinate Geometry

Midpoint of the segment AB:

M $(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2})$

Distance from A to B:

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

Slope of a line:

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{rise}{\text{run}}$$

Special Factoring

$\mathrm{a}^2 - \mathrm{b}^2 = (\mathrm{a} + \mathrm{b})(\mathrm{a} - \mathrm{b})$

$\mathrm{a}^2 + 2ab + \mathrm{b}^2 = (\mathrm{a} + \mathrm{b})(\mathrm{a} + \mathrm{b})$

$\mathrm{a}^2 - 2ab + \mathrm{b}^2 = (\mathrm{a} - \mathrm{b})(\mathrm{a} - \mathrm{b})$

$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$

$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

Quadratic Formula

for $ax^2 + bx + c = 0$

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

Interest

Simple Interest:

$$I = prt$$

Interest Formula (compounded n times per year):

$$A = p(1 + \frac{r}{n})^{nt}$$

A = Amount after t years.

p = principal

r = annual interest rate

t = time in years

I = Interest

Trigonometric Identities

Pythagorean Theorem: $a^2 + b^2 = c^2$

$\sin\theta = \frac{opp}{hyp}$

$\cos\theta = \frac{adj}{hyp}$

$\tan\theta = \frac{opp}{adj}$

$sin^2\theta + cos^2\theta = 1$

$\text{Density} = \frac{Mass}{Volume}$