Facts, Definitions, and Rules

Formulas

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

$$x = -\frac{b}{2a}$$

$$y = c - \frac{b^2}{4a}$$

} Vertex Formula

Vertex = (x, y)

$= \left(-\frac{b}{2a}, c - \frac{b^2}{4a}\right)$

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$ } Sine Law

$$a^2 = b^2 + c^2 - 2bc\cos A$$ } cosine law

$$t_n = a + (n-1)d$$ } n^{th} term of arithmetic sequence/series

$$S_n = \frac{n}{2}(2a + (n-1)d)$$ } Sum of arithmetic sequence/series

Facts, Definitions, and Rules

$t_n = ar^{n-1}$ } n^{th} term of geometric sequence/series

$S_n = \frac{a(1-r^n)}{1-r}$ } Sum of geometric (finite) sequence/series

* Finite

$S_n = \frac{a}{1-r}$ } Sum of infinite geometric sequence/series

* infinite