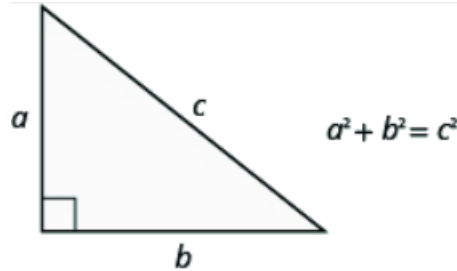


## COMMON FORMULAS MATH 099-ALGEBRA ESSENTIALS

### Chapter 2 Formulas

Simple Interest:  $I = Prt$ , where  $I$ , is the amount of interest earned or paid, the principal  $P$ , is the amount of money that is invested or borrowed, the annual interest rate is  $r$ , and  $t$  is the number of years

Pythagorean Theorem:



### Chapter 3 Formulas

Slope of a line containing the points  $(x_1, y_1)$  and  $(x_2, y_2)$ :  $m = \frac{y_2 - y_1}{x_2 - x_1}$

Slope-Intercept form of a line:  $y = mx + b$

Point-Slope form of a line:  $y - y_1 = m(x - x_1)$

### Chapter 5 Formulas

Product of the Sum and Difference of the same two terms:  $(a+b)(a-b) = a^2 - b^2$

Square of a Binomial:  $(a+b)^2 = a^2 + 2ab + b^2$

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

### Chapter 10 Formulas

Compound Interest: After  $t$  years, the balance,  $A$ , in an account with principal  $P$  and annual interest rate  $r$  is given by

1. For  $n$  compounding periods per year:  $A = P \left( 1 + \frac{r}{n} \right)^{nt}$

2. For continuous compounding:  $A = Pe^{rt}$

The pH of a substance:  $pH = -\log[H^+]$ , where  $[H^+]$  is the hydrogen ion concentration in moles per liter.