
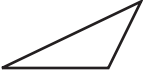











Alaska Mathematics Standards Reference Sheet

Shape	Area	Circumference
 Circle	$A = \pi r^2$	$C = \pi d = 2\pi r$
 Triangle	$A = \frac{1}{2}bh$	
 Rectangle	$A = lw$	
 Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$	
 Parallelogram	$A = bh$	

Key	
b = base	ℓ = slant height
h = height	d = diameter
l = length	r = radius
w = width	B = area of base
Use 3.14 or $\frac{22}{7}$ for π .	

Shape	Volume	Total Surface Area
 Right Circular Cone	$V = \frac{1}{3}\pi r^2h$	$SA = \frac{1}{2}(2\pi r)\ell + \pi r^2 = \pi r\ell + \pi r^2$
 Square Pyramid	$V = \frac{1}{3}lwh$	$SA = 4(\frac{1}{2}l\ell) + l^2 = 2l\ell + l^2$
 Sphere	$V = \frac{4}{3}\pi r^3$	$SA = 4\pi r^2$
 Right Circular Cylinder	$V = \pi r^2h$	$SA = 2\pi rh + 2\pi r^2$
 Rectangular Solid	$V = lwh$	$SA = 2(lw) + 2(hw) + 2(lh)$
 Triangular Prism	$V = Bh$	

In the following formulas, n represents the number of sides:

In a polygon, the sum of the measures of the interior angles is equal to $180(n - 2)$.

In a regular polygon, the measure of an interior angle is equal to $180(n - 2) \div n$.

Alaska Mathematics Standards Reference Sheet

Formulas	
Slope-intercept form of an equation of a line, where m = slope and b = the y -intercept: $y = mx + b$	Distance between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$: $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
Distance, rate, time formula, where d = distance, r = rate, t = time: $d = rt$	Midpoint between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$: $\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$
Simple Interest = prt where p = principal, r = rate, t = time	Quadratic formula, if $ax^2 + bx + c = 0$: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Conversions	
1 yard = 3 feet = 36 inches 1 mile = 1,760 yards = 5,280 feet 1 acre = 43,560 square feet 1 hour = 60 minutes 1 minute = 60 seconds 1 liter = 1,000 milliliters = 1,000 cubic centimeters 1 meter = 100 centimeters = 1,000 millimeters 1 kilometer = 1,000 meters 1 gram = 1,000 milligrams 1 kilogram = 1,000 grams	1 cup = 8 fluid ounces 1 pint = 2 cups 1 quart = 2 pints 1 gallon = 4 quarts 1 pound = 16 ounces 1 ton = 2,000 pounds 1 meter = 3.28 feet 1 kilogram = 2.20 pounds