

Oklahoma State Testing Program
10th Grade Mathematics Formula Sheet

UNIT CONVERSIONS

1 foot = 12 inches	1 pound = 16 ounces	1 cup = 8 fluid ounces
1 yard = 3 feet	1 ton = 2000 pounds	1 pint = 2 cups
1 mile = 5280 feet	1 kilogram = 1000 grams	1 quart = 2 pints
1 mile = 1760 yards		1 gallon = 4 quarts
1 meter = 100 centimeters		
1 meter = 1000 millimeters		

AREA

Rectangle	$A = lw$	Circle	$A = \pi r^2$
Parallelogram	$A = bh$	Trapezoid	$A = \frac{1}{2}(b_1 + b_2)h$
Triangle	$A = \frac{1}{2}bh$	Regular Polygon	$A = \frac{1}{2}ap$

CIRCUMFERENCE

Circle	$C = \pi d$ or $C = 2\pi r$
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VOLUME

Rectangular Prism	$V = Bh$ or $V = lwh$	Right Cylinder	$V = Bh$ or $V = \pi r^2 h$
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SURFACE AREA

Rectangular Prism	$S = 2B + Ph$ or $S = 2lw + 2lh + 2wh$
Cylinder	$S = 2\pi rh + 2\pi r^2$

LINEAR EQUATIONS

Slope-intercept	$y = mx + b$	Slope formula	$m = \frac{y_2 - y_1}{x_2 - x_1}$
Point-slope	$y - y_1 = m(x - x_1)$	Direct Variation	$y = kx$
Standard Form	$Ax + By = C$		

OTHER

$$d = rt$$

$$\text{Midpoint Formula } \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$\text{Pythagorean Formula } a^2 + b^2 = c^2$$

$$\text{Distance Formula } \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

SEQUENCES

Arithmetic

$$a_n = a_1 + (n - 1)d$$

Geometric

$$a_n = a_1 r^{n-1}$$

COUNTING PRINCIPLES

$$\text{Permutations } {}_n P_r = P(n, r) = \frac{n!}{(n-r)!}$$

$$\text{Combinations } {}_n C_r = C(n, r) = \binom{n}{r} = \frac{n!}{(n-r)!r!}$$