

## Ohio Graduation Tests Mathematics Reference Sheet

Information that may be needed to solve problems on the Mathematics Test:

### Area Formulas

parallelogram  $A = bh$

rectangle  $A = lw$

trapezoid  $A = \frac{1}{2}h(b_1 + b_2)$

triangle  $A = \frac{1}{2}bh$

### Volume Formulas

cone  $V = \frac{1}{3}\pi r^2h$

cylinder  $V = \pi r^2h$

pyramid  $V = \frac{1}{3}Bh$   $B = \text{area of base}$

rectangular prism  $V = lwh$

right prism  $V = Bh$   $B = \text{area of base}$

### Circle Formulas

$C = 2\pi r$   $\pi \approx 3.14$  or  $\frac{22}{7}$

sphere  $V = \frac{4}{3}\pi r^3$

$A = \pi r^2$

## Combinations

$${}^n C_r = C(n,r) = \frac{n!}{r!(n-r)!}$$

## Permutations

$${}^n P_r = P(n,r) = \frac{n!}{(n-r)!}$$

## Distance Formula

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

## Quadratic Formula

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

## Trigonometry

$$\sin A = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos A = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan A = \frac{\text{opposite}}{\text{adjacent}}$$

