

Missouri EOC

Mathematics Reference Sheet

General Equations

$$Ax + By = C$$

$$y = mx + b$$

$$y - y_1 = m(x - x_1)$$

$$y = a(x - h)^2 + k$$

$$y = ax^2 + bx + c$$

$$y = ab^x$$

$$y = \log_b x$$

$$(x - h)^2 + (y - k)^2 = r^2$$

General Formulas

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$${}_nP_r = \frac{n!}{(n - r)!}$$

$${}_nC_r = \frac{n!}{(n - r)!r!}$$

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

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

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

$$a^2 + b^2 = c^2$$

$$d = rt$$

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

$$a_1 = 1^{\text{st}} \text{ term}, a_n = a_{n-1} + d$$

$$g_n = g_1 r^{n-1}$$

$$g_1 = 1^{\text{st}} \text{ term}, g_n = r g_{n-1}$$

$$I = prt$$

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

$$A = Pe^{rt}$$

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

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

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

Area/Volume

$$\text{Area} = \frac{1}{2}bh$$

$$\text{Area} = \frac{1}{2}h(b_1 + b_2)$$

$$\text{Area} = \pi r^2$$

$$\text{Circumference} = \pi d$$

$$\text{Volume} = Bh$$

$$\text{Volume} = \frac{1}{3}Bh$$

$$\text{Volume} = \frac{4}{3}\pi r^3$$

$$\text{Surface Area} = 4\pi r^2$$

