MAAPC20S Formula Sheet

Imperial Conversions:

1 foot (1 ft or 1’) = 12 inches (12 in or 12”)

1 yard (1 yd) = 36 in or 3 ft

1 mile (1 mi) = 5280 ft or 1760 yd

Conversions Between Systems	
Metric	**Imperial**
1 millimetre (mm)	0.0394 inch (in)
1 centimetre (cm)	0.3937 inch (in)
1 metre (m)	1.0936 yard (yd)
1 metre (m)	39.37 inch (in)
1 kilometre (km)	0.6214 mile (mi)
2.54 centimetre (cm)	1 inch (in)
0.3048 metre (m)	1 foot (ft)
0.9144 metre (m)	1 yard (yd)
1.6093 kilometre (km)	1 mile (mi)

Area (triangle)

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

Area (circle)

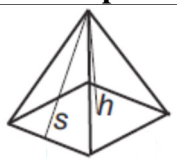
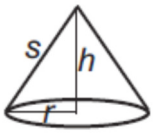
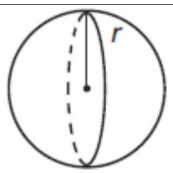
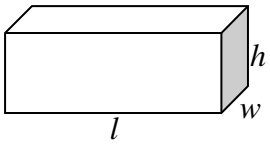
$$A = \pi r^2$$

Circumference (Circle)

$$C = 2\pi r$$

Pythagorean Theorem

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

Shape	Surface Area	Volume
	$SA = \frac{Ps}{2} + B$	$V = \frac{Bh}{3}$
	$SA = \pi rs + \pi r^2$	$V = \frac{\pi r^2 h}{3}$
	$SA = 4\pi r^2$	$V = \frac{4\pi r^3}{3}$
	$SA = 2\pi rh + 2\pi r^2$	$V = \pi r^2 h$
	$SA = 2lw + 2lh + 2wh$	$V = lwh$

MAAPC20S Formula Sheet

Slope

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

Midpoint

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

Distance Formula

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

Equation of Lines

$$y = mx + b$$

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

$$Ax + By + C = 0$$

Trigonometric Ratios

$$sin\theta = \frac{opposite}{hypotenuse}$$

$$cos\theta = \frac{adjacent}{hypotenuse}$$

$$tan\theta = \frac{opposite}{adjacent}$$