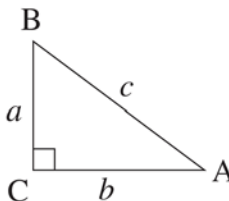



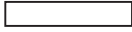




## Appendix C: Mathematics 10 Data Sheets

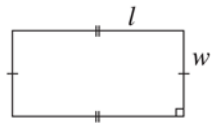
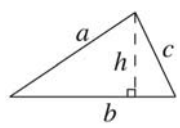
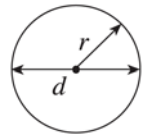
	Common Imperial	Imperial and SI	SI
Length	1 mile = 1760 yards 1 yard = 3 feet 1 foot = 12 inches	1 mile = 1.609 km 1 yard = 0.9144 m 1 foot = 30.48 cm 1 inch = 2.54 cm	1 km = 1000 m 1 m = 100 cm 1 cm = 10 mm
Common Abbreviations	mile ↔ mi yard ↔ yd feet ↔ ' or ft inch ↔ " or in ton ↔ tn pound ↔ lb ounce ↔ oz		kilometre ↔ km metre ↔ m centimetre ↔ cm millimetre ↔ mm tonne (metric) ↔ t gram ↔ g

Trigonometry		
<b>Reminder:</b> Put your calculator in degree mode.		
$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$	$\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$	$\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$
<b>Pythagorean Theorem</b> $a^2 + b^2 = c^2$		
		

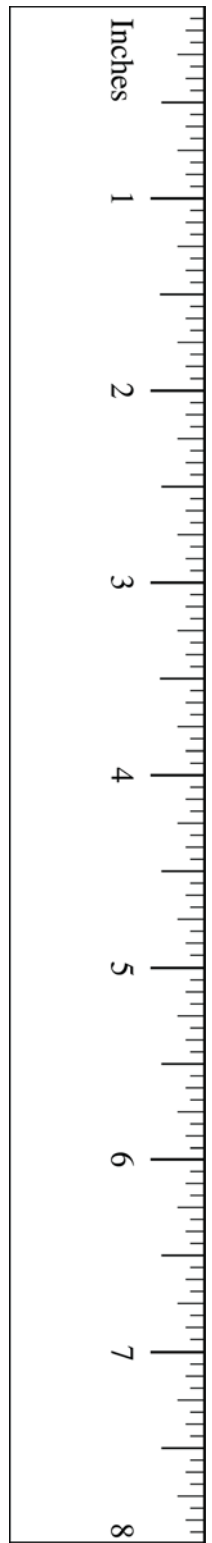
Math Tiles Legend			
	$+x^2$		$-x^2$
	$+x$		$-x$
	$+1$		$-1$

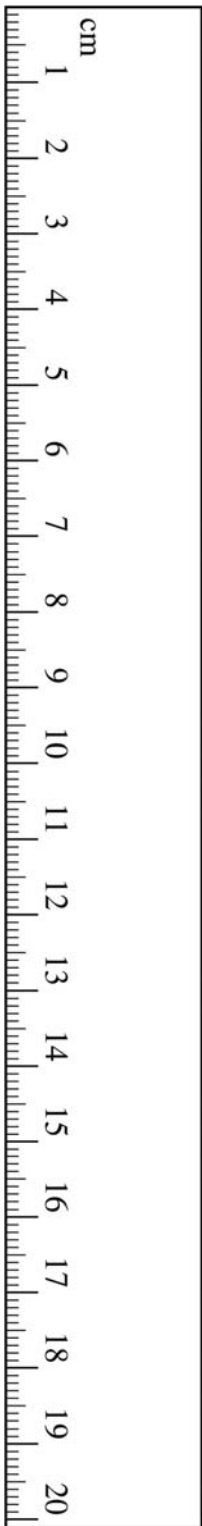
Linear Algebra	
Linear equations	The slope of a line
$y = mx + b$	$m = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$
$Ax + By + C = 0$	
$y - y_1 = m(x - x_1)$	
distance = speed $\times$ time	

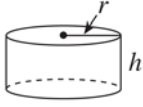
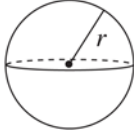
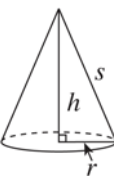
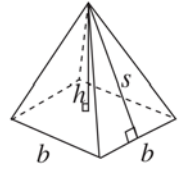
Analytic Geometry
Midpoint: $\left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
Distance formula: $D = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

Geometric Figure	Perimeter	Area
Rectangle 	$P = 2l + 2w$	$A = lw$
Triangle 	$P = a + b + c$	$A = \frac{bh}{2}$
Circle 	$C = 2\pi r$	$A = \pi r^2$

**NOTE:** Use the value of  $\pi$  programmed in your calculator rather than the approximation of 3.14.





Geometric Solid	Surface Area	Volume
Cylinder 	$SA = 2\pi r^2 + 2\pi rh$	$V = (\text{area of base}) \times h$
Sphere 	$SA = 4\pi r^2$	$V = \frac{4}{3}\pi r^3$
Cone 	$SA = \pi r^2 + \pi rs$	$V = \frac{1}{3} \times (\text{area of base}) \times h$
Square-Based Pyramid 	$SA = 2bs + b^2$	$V = \frac{1}{3} \times (\text{area of base}) \times h$
General Right Prism	$SA = \text{the sum of the area of all the faces}$	$V = (\text{area of base}) \times h$
General Right Pyramid	$SA = \text{the sum of the area of all the faces}$	$V = \frac{1}{3} \times (\text{area of base}) \times h$

**NOTE:** Use the value of  $\pi$  programmed in your calculator rather than the approximation of 3.14.