Nova Scotia Examinations

Mathematics 10

FORMULA BOOKLET (Web Sample)

Revised 09/14

NOVA SCOTIA

	Measurement		
	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

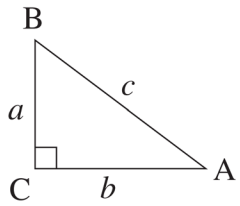
Trigonometry

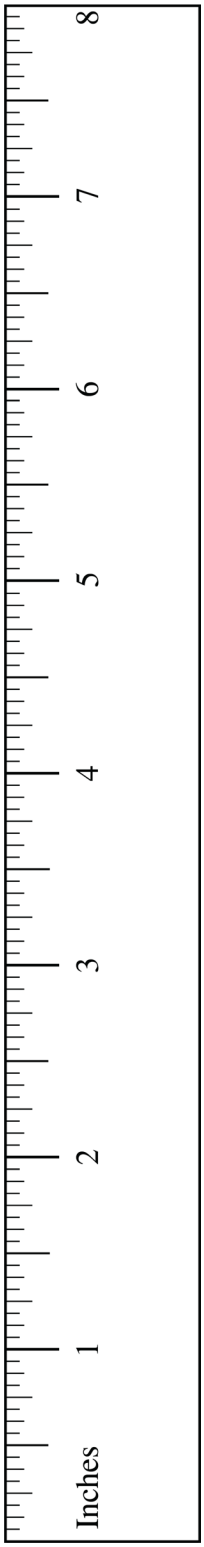
Reminder: Put your calculator in degree mode.

$$\sin\theta = \frac{\text{opposite}}{\text{hypotenuse}} \qquad \cos\theta = \frac{\text{adjacent}}{\text{hypotenuse}} \qquad \tan\theta = \frac{\text{opposite}}{\text{adjacent}}$$

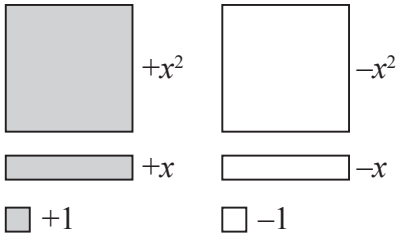
Pythagorean Theorem

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





Math Tiles Legend



Linear Functions

Linear equations

$y = mx + b$

$Ax + By + C = 0$

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

The slope of a line

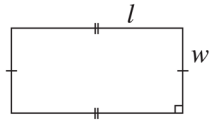
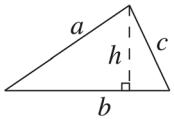
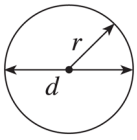
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

distance = speed × time

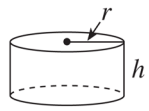
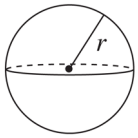
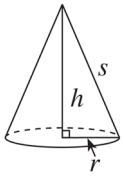
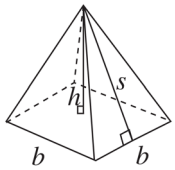
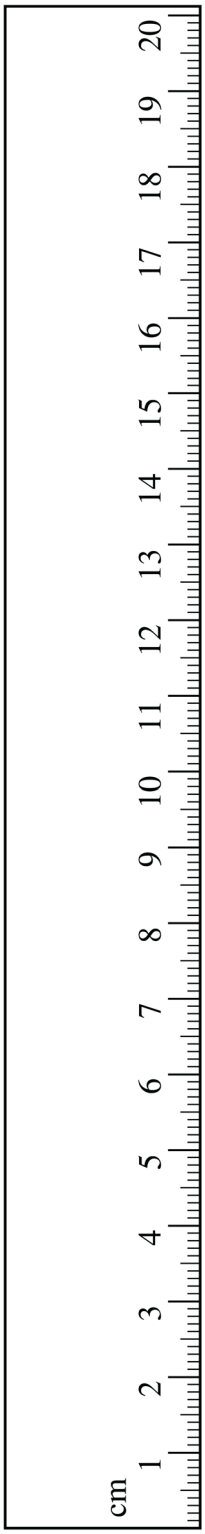
Analytical Geometry

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

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

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 π 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 	$SA = \pi r^2 + \pi rs$	$V = \frac{1}{3} \times (\text{area of base}) \times h$
Right Square-Based Pyramid 	$SA = 2bs + b^2$	$V = \frac{1}{3} \times (\text{area of base}) \times h$
General Right Prism	SA = the sum of the area of all the faces	$V = (\text{area of base}) \times h$
General Right Pyramid	SA = the sum of the area of all the faces	$V = \frac{1}{3} \times (\text{area of base}) \times h$

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