MATHEMATICS 20-3

Mr. M Cherney

COURSE OUTLINE 2025-2026

Ch 1 Slope, Rate	9-3 Classes-Lessons	9 School Days	Jan 28 – Feb 9
Ch 2 Graphs	11(12 OE)-4 Classes-Lessons	10(11) School Days	Feb 10 – Mar 3
Ch 3 Area, Volume, Capacity	12-4 Classes-Lessons	11 School Days	Mar 4 – Mar 19
Ch 4 Trigonometry	7(SB)-2 Classes-Lessons	7 School Days	Mar 20 – Apr 14
Ch 5 Scale	10-3 Classes-Lessons	9 School Days	Apr 15 – Apr 27
Ch 6 Finance	11-4 Classes-Lessons	11 School Days	Apr 28 – May 12
Ch 7 Budgets	10(12 OE)-3 Classes-Lessons	10(12) School Days	May 13 – Jun 1
Course Review	7-7 Classes-Lessons	7 School Days	Jun 2 – Jun 11
In Class Final Part Ch 1/2	1-1 Classes-Lessons	1 School Days	Jun 12 – Jun 12
	75(78)-31 Classes-Lessons	75(78) School Days	

Final

Final Exam	Jun 15 – 23

COURSE MARKING 2025-2026

Heading	Date	Weight	Points Earned (%)	Percent (%)
Course Work		75		
Tests		95		
Ch 1 Unit Price, Exchange		15		
Ch 2 Income		14		
Ch 3 Length, Area, Volume		14		
Ch 4 Trigonometry		14		
Ch 5 Scale		14		
Ch 6 Finance		14		
Ch 7 Budgets		15		
Homework		5		
Final Exam		25		
Final Grade				

Daily Homework for each assignment is due the day the day the chapter test is written when your workbooks are collected. It will be marked for completeness, 1 mark for each completed question out of the total assigned questions. Each question number of your work is to be highlighted once (**not** abc parts) with a marker.

Online Tutorials will be used for individualized instruction based on the MathWorks 11 Workbook at: https://sites.google.com/a/share.epsb.ca/mr-trimble-s-math-site/Home
(can also google: mr trimble math courses or mr trimble math videos and resources – it should be the first site that comes up)

MATH 20-3 FORMULA SHEET

CHAPTER 1

$$\text{slope} = \frac{\text{rise}}{\text{run}} \qquad \tan\theta = \frac{\text{opp}}{\text{adj}}$$

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} \qquad a^2 + b^2 = c^2$$

$$\%\ \text{grade} = \frac{\text{rise}}{\text{run}} \times 100$$

CHAPTER 3

$$A_{\text{SQUARE}} = l \times w \qquad V_{\square} = l \times w \times h$$

$$A_{\text{CIRCLE}} = \pi r^2 \qquad V_{\bigcirc} = \pi r^2 h$$

$$A_{\text{TRIANGLE}} = \frac{bh}{2} \qquad V_{\text{CONE}} = \frac{\pi r^2 h}{3}$$

$$SA_{\text{SPHERE}} = 4\pi r^2 \qquad V_{\text{PYRAMID}} = \frac{bh}{3}$$

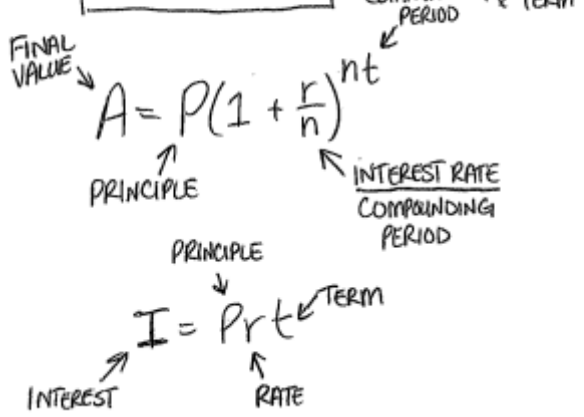
$$V_{\text{SPHERE}} = \frac{4}{3}\pi r^3$$

CHAPTER 4

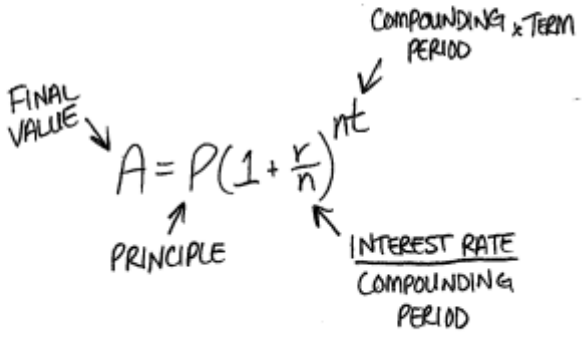
$$\sin\theta = \frac{\text{opp}}{\text{hyp}} \qquad \tan\theta = \frac{\text{opp}}{\text{adj}}$$

$$\cos\theta = \frac{\text{adj}}{\text{hyp}} \qquad a^2 + b^2 = c^2$$

CHAPTER 6



CHAPTER 7



MATHEMATICS 10C FORMULA SHEET

Graphing Calculator Window Format $x[x_{\min}, x_{\max}, x_{scl}]$ $y[y_{\min}, y_{\max}, y_{scl}]$

Conversion Tables

Imperial	*Metric*
1 inch = 1”=1 in	1 millimetre = 1 mm
1 foot = 1’=1 ft	1 centimetre = 1 cm
1 yard = 1 yd	1 metre = 1 m
1 mile = 1 mi	1 kilometre = 1 km
1 ft = 12 in	1 cm = 10 mm
1 yd = 3 ft = 36 in	1 m = 100 cm = 1000 mm
1 mi = 1760 yd = 5280 ft	1 km = 1000 m

Cross Over

1 in = 2.54 cm
1 ft = 30 cm = 0.3 m
1 yd = 91.44 cm = 0.9144 m
1 mi = 1.6 km

1 mm = 4/100 in = 0.04 in
1 cm = 4/10 in = 0.4 in
1 m = 39 in = 3 ¼ ft = 3.25 ft
1 km = 0.6 mi

Surface Area

Prisms	$SA = A_L + B + B$
Pyramids	$SA = A_L + B$
Regular Pyramids and Cones	$SA = \frac{1}{2}(s)(P) + B$
Cones	$SA = \pi rs + \pi r^2$
Cylinders	$SA = 2\pi rh + 2\pi r^2$
Spheres	$SA = 4\pi r^2$
Hemispheres	$SA = 3\pi r^2$

Volume

Prisms	$V = Bh$
Pyramids	$V = \frac{1}{3}Bh$
Cones	$V = \frac{1}{3}\pi r^2 h$
Cylinders	$V = \pi r^2 h$
Spheres	$V = \frac{4}{3}\pi r^3$
Hemispheres	$V = \frac{2}{3}\pi r^3$

Trigonometry

SOH CAH TOA

$$\sin A = \frac{opp}{hyp} \quad \cos A = \frac{adj}{hyp} \quad \tan A = \frac{opp}{adj}$$

Pythagoras

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

Angle Sum

$$\angle A + \angle B + \angle C = 180°$$

Polynomials

Factoring
- Prime Factorization
- Common Factor
- Product Sum Factoring
- Factor by Grouping (Decomposition)
- Perfect Trinomial Squares
- Difference of Squares

Expanding
- Distributive Property
- FOIL
- Binomial Squares
- Conjugates

Radicals and Powers

$$x^a \times x^b = x^{a+b}$$

$$x^a \div x^b = x^{a-b}$$

$$x^{-a} = \frac{1}{x^a} \text{ or } \left(\frac{x}{y}\right)^{-a} = \left(\frac{y}{x}\right)^a, \quad x, y \neq 0$$

$$x^a \div x^a = x^{a-a} = x^0 = 1, \qquad x \neq 0$$

$$(xy)^a = x^a y^a$$

$$\left(\frac{x}{y}\right)^a = \frac{x^a}{y^a}, \qquad y \neq 0$$

$$\left(x^a\right)^b = x^{ab}$$

$$x^{\frac{a}{b}} = \left(\sqrt[b]{x}\right)^a = \sqrt[b]{x^a} = x^{a \times \frac{1}{b}}$$

Linear Relations

$$m = \frac{rise}{run} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

Linear Functions

Slope Intercept Form

$$y = mx + b$$

Slope Point Form

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

Two Point Form

$$y - y_1 = \frac{y_2 - y_1}{x_2 - x_1}(x - x_1)$$

Two Intercept Form

$$\frac{x}{a} + \frac{y}{b} = 1$$

General Form

$$Ax + By + C = 0$$

Standard Form

$$Ax + By = -C$$