Vocabulary 1

大於, 多於： more / greater / larger (than)
小於, 少於： less / fewer / smaller (than)

Vocabulary 2

餘下： leave, left, remain, remained, remaining

Vocabulary 3

(A) 的 (B)： (B) of (A)
...的數量： number of ...

Vocabulary 4 (about money)

amount (n.) 金額	earn (v.) 賺取	cost (v.) 需支付…錢	cost (n.) 價值, 成本
expenditure (n.) 支出	income (n.) 收入	pay, spend, spent (v.) 付出	pocket money (n.) 零用錢
price (n.) 價錢	salary (n.) 薪金	sell, sold (v.) 賣	needed, required (adj.) 所需的

[e.g.] Amount that Peter spends on soft drinks = 5 × 4 = $20
[e.g.] Amount spent on soft drinks = 5 × 4 = $20
[e.g.] Peter's expenditure on soft drink = 5 × 4 = $20

Vocabulary 5 (about time)

spend, spent (v.) 付出	at the beginning 最初	old (adj.) 舊的, 以前的	original (adj.) 原來的
new (adj.) 新的	annual, yearly (adj., adv) 每年的／地	monthly (adj., adv.) 每月的／地	weekly (adj., adv.) 每週的／地
daily (adj.) 每日的／地	century (n.) 世紀	minute (n.) 分鐘	second (n.) 秒

[e.g.] Time spent on doing homework = 2 × 30 = 60mins
[e.g.] Time needed = 2 × 30 = 60mins
[e.g.] Peter's monthly income = 100 × 30 = $300

Vocabulary 6 (about quantity)

a piece of … 一件, 一塊, 一張	a pair of … 一對	each (adj.) 每個	per (adj.) 每個
on average 平均地	dozen (n.) 打 (十二個)	greatest, maximum 最大的 (adj.)	smallest, minimum 最小的 (adj.)

[e.g.] Price of each apple = 24 ÷ 12 = $2
[e.g.] Price per apple = 24 ÷ 12 = $2
[e.g.] Price of a dozen of apples = 2 × 12 = $24

Vocabulary 1 (Section 1.1 Concept of Directed Numbers)

concept (n.) 概念	directed number 有向數	direction (n.) 方向
positive number 正數	negative number 負數	represent (v.) 代表
Increase, rise, raise, gain (v.) 增加	decrease, reduce, lower (v.) 減少	profit (n.) 盈利
lose (v.), loss (n.) 虧蝕, 失去	upwards (adv.) 向上	downwards (adv.) 向下
north (n.) 北	south (n.) 南	east (n.) 東
west (n.) 西	opposite number 相反數	magnitude (n.) 數量 (忽略正負號)

[e.g.] –$2 represents a decrease of 2 dollars in price.
[e.g.] If +300m represents 300 metres to the north, then –200m represents 200 metres to the south.
[e.g.] The opposite number of 4 is –4.

Vocabulary 2 (Section 1.2 The Number Line)

number line 數線	ascending order 由小至大	descending order 由大至小
arrange (v.) 排列	mental math 心算	/

[e.g.] 2, 5, 6, 9, 15 are arranged in an ascending order.
[e.g.] The teacher gives us back the test paper in the descending order of the scores.
[e.g.] As a secondary school student, you should be able to do the sum of 6 and 9 by mental math.

Vocabulary 3 (Section 1.3 Addition and Subtraction of Directed Numbers Section 1.4 Multiplication and Division of Directed Numbers)

addition (n.) 加法	subtraction (n.) 減法	multiplication (v.) 乘法
division (n.) 除法	Commutative property of multiplication 乘法交換性則	evaluate (v.) 計算

[e.g.] By the commutative property of multiplication, we know that 123×999 is equal to 999×123 without evaluating their values.

Vocabulary 4 (Section 1.5 Contextual Problems)

contextual problem 文字題	change (n.), (v.) 轉變	/

[e.g.] Tommy has changed a lot after entering to the secondary school.

Vocabulary 1 (Section 2.1 Algebraic Language)

introduction (n.) 介紹	introduce (v.) 介紹	algebra (n.) 代數學
algebraic (adj.) 代數的	algebraic language 代數語言	Simplify (v.) 化簡
Express … in terms of x 以 x 表示 …	language (n.) 語言	/

[e.g.] The teacher introduces a new student to his class today.
[e.g.] In algebra, we use $6ab$ to represemt $6\times a\times b$.
[e.g.] We could simplify $\frac{10}{15}$ to $\frac{2}{3}$.

Vocabulary 2 (Section 2.2 Method of Substitution and Formulas)

method (n.) 方法	substitution (n.) 代入法	substitute (v.) 代入
formula (n.) 公式	consider (v) 考慮	value (n.) 數值

[e.g.] There are some fast methods to evaluate $1+2+3+...+100$..
[e.g.] We substitute $a = 5$ into the formula $B = 4a$ so that $B = 20$.
[e.g.] The value of 10^2 is 100.
[e.g.] I consider buying a new mobile phone.

Vocabulary 3 (Section 2.3 Number Patterns)

pattern (n.) 規律	number pattern 數字規律	the n-th term 第 n 項／第 n 個數
even number 雙數	odd number 單數	square number 正方形數
triangular number 三角形數	general term 通項	sequence (n.) 一系列的數字 (又名「序列」)

[e.g.] 1, 3, 5, 7, 9, … is a sequence of numbers. This sequence is called odd numbers and the general term is $2n - 1$.
[e.g.] The n-th term of square numbers is n^2.

Vocabulary 1 (Section 3.1 Algebraic Equations Section 3.2 More about Solving Equations)

equation (n.) 方程	left hand side (方程的)左面	right hand side (方程的)右面
unknown (n.) 未知數	solve (v.) 解 (求未知數的值), 解決	root (n.) 方程的答案

[e.g.] The root of the equation $2x + 1 = 7$ is 3.
[e.g.] y is the unknown of the equation $5y - 6 = 14$.
[e.g.] Tom solve the question by himself.

Vocabulary 2 (Section 3.3 Application of Algebraic Equations)

application (n.) 應用	let x be … 設 x 為…	original (adj.) 原來的, 本來的

[e.g.] An application of directed numbers is to represent temperature.
[e.g.] Boris's original salary was $9000. It is $19000 now.

Vocabulary 3 (Section 3.4 Literal Equations)

literal equation 文字方程	/	/

[e.g.] $ax+b=c$ is an example of literal equation.

Vocabulary 1 (Section 4.1 Basic percentage)

percentage (n.) 百分數	… per cent (n.) 百分之…	whole (n.) 全部	part (n.) 部分
percentage of the part to the whole (n.) 部分佔全部的百分數			

[e.g.] More than sixty per cents of the choir members are boys.

[e.g.] There is a very high percentage of students wearing glasses in F.1.

[e.g.] We ate the whole cake in about ten minutes!

Vocabulary 2 (Section 4.2 Increase and Decrease)

original value (n.) 原值	new value (n.) 新值
increase, rise, raise, gain, extend, profit 增加	decease, reduce, drop, lower, lose, loss 減少
percentage increase (n.) 增加的百分率	percentage decrease (n.) 減加的百分率
increase by \$30 增加了\$30 increase to \$30 增加至\$30 increase by 5% to \$30 增加了 5%，達至\$30	decrease by \$30 減少了\$30 decrease to \$30 減少至\$30 decrease by 5% to \$30 減少了 5%，達至\$30

[e.g.] The original price of the toy car was \$50. After a month, it increased by \$10. The new price was \$60.

[e.g.] The original price of the toy car was \$50. After a month, it increased to \$60. The percentage increase is 20%.

[e.g.] The numbers of traffic accidents keep decreasing in these years.

Vocabulary 3 (Section 4.3 Profit, Loss and Discount)

cost price (n.) 成本	marked price (n.) 標價	selling price (n.) 售價	profit (n.) 盈利
profit per cent (n.) 盈利百分率	loss (n.) 虧蝕	loss per cent (n.) 虧蝕的百分率	discount (n.) 節扣
discount per cent (n.) 節扣百分率	Sold at a discount of 10% Sold at 10% off } 九折出售		

[e.g.] The cost price of each fish ball is fifty cents.

[e.g.] John works at a book store so he can buys books at a discount.

[e.g.] MTR made a great profit last year.

Vocabulary 1 (Section 5.1 Introduction to Estimation)

exact value 真確值	accurate (adj.) 準確的	accuracy (n.) 準確性
estimate (v.) 估計	estimated value 估計值／近似值	estimation (n.) 估計
approximate (v.), (adj.) 估計(的)	approximate value 估計值／近似值	approximation (n.) 近似值

[e.g.] For 999 + 998 + 997, we need more time to get the accurate answer than doing estimation.
[e.g.] For 999 + 998 + 997, we need more time to get the exact value of the answer than obtaining the estimated value.
[e.g.] 3000 is an approximation for 999 + 998 + 997.

Vocabulary 2 (Section 5.2 Numerical Estimation Strategy)

numerical (adj.) 數值的	strategy (n.) 策略	round off 四捨五入	correct to the nearest … 準確至最接近的…
determine (v.) 判斷	whether (conj.) 是否	measure (v.) 量度	/

[e.g.] Rounding off is a strategy of estimation.
[e.g.] Calculator can only solve the questions asking for numerical answers, but it couldn't tell the answer of $(x+3)(x^2+x-6)$.
[e.g.] Before buying the new computer, you should determine whether you have enough money.
[e.g.] This ruler, which has the scale interval of 1 mm, can measure the length of an object correct to the nearest mm.

Vocabulary 3 (Section 5.3 Measurement Section 5.4 Estimation Strategies in Measurement)

measure (v.) 量度	measured value 量度值	measuring tool 量度工具	measurement (n.) 量度
scale interval 刻度間距	/	/	/

[e.g.] The scale interval of most rulers is 1 cm.
[e.g.] To do an accurate measurement, you need a measuring tool with small scale interval.
[e.g.] By using this ruler, the measured value of the length of this object is 10.4 cm.

Vocabulary 4 (Section 5.5 Methods of Reducing Errors in Measurement)

error (n.) 誤差	/	/	/

[e.g.] Error is the difference between the exact value and the approximation.

Vocabulary 1 (Section 6.1 The Elements of Geometry)

element (n.) 元素	geometry (n.) 幾何	point (n.) 點	dot (n.) 實心圓點	cross (n.) 交叉
represent (v.) 代表	straight line (n.) 直線	infinite (adj.) 無限多	infinitely (adv.) 無限地	length (n.) 長度
width (n.) 闊度	line segment (n.) 線段	curve (n.) 曲線	plane (n.) 平面	thickness 厚度
area (n.) 面積	volume (n.) 體積	/	/	/

[e.g.] Points, lines, planes and solids are the elements of geometry.
[e.g.] A point can be represented by a dot or a cross.
[e.g.] There are infinitely many integers.
[e.g.] A straight line can be drawn by using a ruler.

Vocabulary 2 (Section 6.2 Angles)

angle (n.) 角	intersect (v.) 相交	intersecting (adj.) 相交的	vertex / vertices (n.) 頂點	adjacent side 鄰邊
acute angle (n.) 銳角	right angle (n.) 直角	obtuse angle (n.) 鈍角	straight angle (n.) 平角	reflex angle (n.) 反角
round angle (n.) 圓角	protractor (n.) 圓規	construct (v.) 構作	/	/

[e.g.] We measure an angle by a protractor.
[e.g.] Line *AB* intersects Line *CD* at point *E* so an angle is formed at *E*.
[e.g.] A triangle has three vertices.
[e.g.] An obtuse angle is greater than an acute angle.

Vocabulary 3 (Section 6.3 Lines on a Plane)

parallel (adj.) 平行	perpendicular (adj.) 垂直

[e.g.] If the line *AB* is parallel to the line *CD*, then they do not have any intersection point.
[e.g.] Vertical lines are always parallel to each other.
[e.g.] The angle of intersection of perpendicular lines is a right angle.
[e.g.] In a square, the adjacent sides are perpendicular to each other.

Vocabulary 4 (Section 6.4 Plane Figures)

triangle (n.) 三角形	scalene triangle (n.) 不規則三角角	isosceles triangle (n.) 等腰三角形	equilateral triangle (n.) 等邊三角形
right-angled triangle (n.) 直角三角形	quadrilateral (n.) 四邊形	pentagon (n.) 五邊形	hexagon (n.) 六邊形
heptagon (n.) 七邊形	octagon (n.) 八邊形	*n*-sided polygon (n.) *n* 邊形	regular polygon (n.) 正多邊形

∠ sum of △ 三角形內角和			

[e.g.] Each interior angle of a regular hexagon is 120°.
[e.g.] A 20-sided polygon looks like a circle.

Vocabulary 5 (Section 6.5 Construction of Figures)

ruler (n.) 間尺	protractor (n.) 量角器	compass (n.) 圓規	set square (n.) 三角尺

[e.g.] We may use a compass to draw a circle with radius of any length.
[e.g.] We may use a protractor to construct an angle even greater than 180°.

Vocabulary 6 (Section 6.6 Three-Dimensional Figures)

three-dimensional 三維的／立體的	prism (n.) 稜柱／柱體	pyramid (n.) 錐體	polyhedron (n.) 正多面體
cylinder (n.) 圓柱體	cone (n.) 圓錐體	sphere (n.) 球體	/

[e.g.] A hexagonal prism has 8 faces.
[e.g.] In science lesson, we use measuring cylinders to measure the volume of water.

Vocabulary 7 (Section 6.7 Cross-section of Solids)

solid (n.) 固體	cross-section (n.) 橫切面	uniform cross-section (n.) 均勻橫切面

[e.g.] Any cylinder has a uniform cross-section which is a circle.
[e.g.] Ice is the solid state of water.

Vocabulary 8 (Section 6.8 2-D Representation of Simple Solids)

sketch (v.) 繪畫	representation (n.) 表示方式

[e.g.] In doing your homework, you have to sketch the graphs using pencil and ruler.
[e.g.] Another representation to $\frac{12}{5}$ is $12 \div 5$.

Vocabulary 1 (Section 7.1 Symmetry)

symmetry (n.) 對稱	symmetric (adj.) 對稱的	reflectional symmetry 反射對稱
axis (axes) of symmetry 對稱軸	rotational symmetry 旋轉對稱	centre of rotation 旋轉中心
n-fold rotational symmetry *n* 重旋轉對稱	order of rotational symmetry 旋轉對稱重覆次數	/

[e.g.] A rectangle is reflectional symmetric and has four axes of symmetry.
[e.g.] A rectangle is also rotational symmetric and the order of rotational symmetry is two.
[e.g.] This is not an equilateral triangle because it doesn't look like symmetric.

Vocabulary 2 (Section 7.2 Transformation)

transformation (n.) 變換，變形	transform (v.) 變換，變形	image (n.) 影像	grid paper 格仔紙
translation (n.) 平移，翻譯	translate (v.) 平移，翻譯	upwards (adj.) 向上	downwards (adj.) 向下
reflection (n.) 反射	reflect (v.) 反射	mirror (n.) 鏡	rotation (n.) 旋轉
rotate (v.) 旋轉	clockwise (adj.) 順時針方向	anti-clockwise (adj.) 反時針方向	enlargement (n.) 放大
enlarge (v.) 放大	reduction (n.) 縮小	reduce (v.) 縮小	scale factor (n.) 放大率

[e.g.] The robot is transformed to a car!
[e.g.] We can see our image in the mirror.
[e.g.] The spider is moving upwards along the wall.
[e.g.] To open the door, you should insert the key and then rotate it clockwise.
[e.g.] We may enlarge a picture by using computer software.
[e.g.] Can you translate this article from Chinese to English?

Vocabulary 1 (Section 8.1 Area of Simple Polygons)

area (n.) 面積	triangle (n.) 三角形	square (n.) 正方形	rectangle (n.) 長方形
parallelogram (n.) 平行四邊形	trapezium (n.) 梯形	height / altitude (n.) 高	base (n.) 底
upper base (n.) 上底	lower base (n.) 下底	method of sub-dividing 分割法	method of filling-up 填補法

[e.g.] By finding the areas, we can know which 2D figure is larger in size.
[e.g.] A rectangle can be cut into two equal triangles.
[e.g.] Parallelogram has two pairs of parallel sides.
[e.g.] Trapezium has a pair of parallel sides.

Vocabulary 2 (Section 8.2 Prisms)

prism (n.) 柱體 / 稜柱	volume (n.) 體積	capacity (n.) 容量	triangular prism (n.) 三角柱體
cube (n.) 正方體	cuboid / Rectangular prism (n.) 長方體	pentagonal prism (n.) 五角柱體	hexagonal prism (n.) 六角柱體
end face / Base (n.) 底面	base area (n.) 底面積	height (n.) 高	lateral face (n.) 側面
total area of lateral faces (n.) 側面面積	total surface area (n.) 總表面面積	perimeter (n.) 周界	depth (n.) 深度

[e.g.] By finding the volume, we can know which 3D figure is larger in size.
[e.g.] Capacity of a container is equal to the volume of water that it can contain.
[e.g.] The base of a triangular prism is a triangle.
[e.g.] Base area can be used to find the volume and the total surface area of a prism.

Vocabulary 1 (Section 9.1-9.4 Congruent Triangles)

congruent (adj.) 全等	congruence (n.) 全等	corresponding angles (n.) 對應角	corresponding sides (n.) 對應邊
condition (n.) 條件	prove / show (v.) 證明	included angle (n.) 夾角	included side (n.) 夾邊
hypotenuse (n.) 斜邊	/	/	/

[e.g.] If $\Delta ABC \cong \Delta XYZ$, the corresponding angle of $\angle A$ is $\angle X$, and the corresponding side of BC is YZ.

[e.g.] In ΔABC, $\angle A$ is the included angle of AB and AC because AB and AC are the adjacent sides of $\angle A$.

Vocabulary 2 (Section 9.5-9.7 Similar Triangles)

similar (adj.) 相似	similarity (n.) 相似	3 sides proportional 三邊成比例	ratio of 2 sides, inc. ∠ 兩邊成比例且夾角相等
proportional (adj.) 符合(正)比例	ratio (n.) 比率	included angle (n.) 夾角	/

[e.g.] The thickness of notes is proportional to the number of pages.

[e.g.] 3 and 6 are in the same ratio as 5 and 10.

Vocabulary 1 (Section 10.1 Introduction to Ordered Pairs Section 10.2 Rectangular Coordinate System)

ordered pair (n.) 序偶	coordinates (n.) 坐標	rectangular coordinates System (n.) 直角坐標系統	*x*-axis (n.) *x* 軸
y-axis (n.) *y* 軸	*x*-coordinate (n.) *x* 坐標	*y*-coordinate (n.) *y* 坐標	origin (n.) 原點
quadrant (n.) 象限	lie on (某點)…位於…(某線)	intersect (v.) 相交	point of Intersection (n.) 相交點

[e.g.] We can tell the location of a certain point by using rectangular coordinates.
[e.g.] If *A* lies on the *x*-axis, then its *y*-coordinate is 0.

Vocabulary 2 (Section 10.3 Distance between Two Points)

distance (n.) 距離	horizontal line (n.) 水平線	vertical line (n.) 垂直線	perimeter (n.) 周界

[e.g.] The distance of (2, 10) from the *x*-axis is 10.
[e.g.] Horizontal lines and vertical lines are always perpendicular.

Vocabulary 3 (Section 10.4 Areas of Plane Figures)

area (n.) 面積	base (n.) 底	height (n.) 高	parallelogram (n.) 平行四邊形
trapezium (n.) 梯形	/	/	/

Vocabulary 4 (Section 10.5 Transformations of Points on the Coordinates Plane)

transformation (n.) / transform (v.) 變換	image (n.) 影像	translation (n.) / translate (v.) 平移	upwards (adv.) 向上
downwards (adv.) 向下	reflection (n.) / reflect (v.) 反射	rotation (n.) / rotate (v.) 旋轉	anti-clockwise (adv., adj.) 逆時針方向
clockwise (adv., adj.) 順時針方向	/	/	/

[e.g.] Moving (2, 10) downwards by 3 units, it becomes (2, 7).
[e.g.] Mirror reflects light so you can see your image on it.

Vocabulary 5 (Section 10.6 Polar Coordinates System)

polar coordinates (n.) 極坐標	pole (n.) 極點	pole axis (n.) 極軸	polar angle (n.) 極角

[e.g.] The principle of polar coordinates is to tell the location of a point by talking about its distance and direction from the origin

Vocabulary 1 (Section 11.1 Angles related to Intersecting Lines)

straight line 直線	angle (n.) 角	adjacent angles 鄰角	angles at a point 同頂角
vertically opposite angles 對頂角	bisect / bisection 平分(成為兩半)	unknown (n.) / (adj.) 未知數 / 未知的	intersect at *A* 相交於 *A* 點

[e.g.] The straight lines *AB* and *CD* intersect at *E*.

Vocabulary 2 (Section 11.2 Angles related to Parallel Lines)

parallel (adj.) 平行	corresponding angles 對應角	alternate angles 交錯角	interior angle 內角
interior angle on the same side 同旁內角	supplementary (adj.) 互補成 180°	produce (v.) 延長直線 / 生產	meet *AB* at *C* 與直線 *AB* 在 *C* 點相遇

[e.g.] The vertical lines are always parallel.
[e.g.] Sum of interior angles of a triangle is one hundred and eighty degrees.

Vocabulary 3 (Section 11.3 Identifying Parallel Lines)

prove / show (v.) 證明

[e.g.] Peter proved his ability in mathematics by his examination result.
[e.g.] If you want to show that *AB* is parallel to *CD*, you should use "corr. ∠s equal" but not "corr. ∠s, *AB* // *CD*".

Vocabulary 1 (Section 12.1 Laws of Positive Integral Indices)

law (n.) 法則	integral (adj.) 整數的	index / indices (n.) 指數	square (n.) 平方
cube (n.) 立方	simplify (v.) 化簡	expression (n.) 數式	/

[e.g.] The index of x in x^2 is 2.
[e.g.] $2x+5$ is an expression.
[e.g.] There is no integral answer for $2x-1=0$.

Vocabulary 2 (Section 12.2 Monomials)

monomial (n.) 單項式	variable (n.) 變數 / 代數	coefficient (n.) 係數	numerical (adj.) 數字的
degree / power (n.) 次數 (指數)	/	/	/

[e.g.] $4x^2$ is a monomial where x is a variable and 4 is the coefficient.

Vocabulary 3 (Section 12.3 Polynomials)

polynomial (n.) 多項式	sum (n.) 和 (加法的答案)	term (n.) 項	substitute (v.) 代入
ascending (adj.) 由小至大	descending (adj.) 由大至小	term (n.) 項	constant (adj., n.) 常數(不會改變的數)
constant term (n.) 常數項	like term (n.) 同類項	unlike term (n.) 異類項	combine (v.) 合併

[e.g.] The polynomial x^2+5x-6 is arranged in ascending powers of x.
[e.g.] The polynomial x^2+5x-6 has 3 terms and –6 is the constant term.
[e.g.] We can combine $5x$ and $2x$ to become $7x$ by addition.

Vocabulary 4 (Section 12.4 Addition and Subtraction of Polynomials)

addition (n.) 加法	subtraction (n.) 減法	column form (n.) 直式	bracket (n.) 括號

[e.g.] If we do not have calculator, we could calculate 54 × 17 by column form.
[e.g.] In the subtraction $(4x+1)-(3x-7)$, we should break the brackets in the first step.

Vocabulary 5 (Section 12.5 Multiplication of Polynomials)

multiplication (n.) 乘法	product (n.) 積 (乘法的答案)	expand (v.) 展開	/

[e.g.] We have $2x+10$ after expanding $2(x+5)$.
[e.g.] The answer of multiplication is called product.

Vocabulary 1

statistics (n.) 統計 / 統計數字	stage (n) 階段	collect (v.) 收集	questionnaire (n.) 問卷
record (v.), (n.) 記錄	organize (v.) 組織	charts (n.) 統計圖	graphs (n.) 圖
represent (v.) 表示	analyze (v.) 分析	conclusion (n.) 結論	observe (v.) 觀察
search (v.) 搜尋	interview (v.), (n.) 訪問	tally (n.) 劃記	frequency (n.) 頻數
distribution (n.) 分佈	discrete data 離散數據	continuous data 連續數據	/

[e.g.] We can know the distribution of family income in Hong Kong from statistics.

[e.g.] We can understand the statistics easily by reading charts.

[e.g.] I am going to organize a birthday party for my sister.

[e.g.] Mr. Wong interviewed five F.1 students to understand their difficulties in learning mathematics.

[e.g.] If you want to know the number of people in Hong Kong in 2012, you could search from the webpage of Census and Statistics Department.

Vocabulary 1 (Section 14.1 Simple Statistical Diagram)

statistical diagram 統計圖	statistical chart 統計圖	bar chart (n.) 棒形圖	horizontal axis (n.) 橫軸
vertical axis (n.) 縱軸	description (n.) 描述	describe (v.) 描述	most (adv., adj.) 最…／大部分
greatest number of … 最多的…	largest number of … 最多的…	maximum (n.)/(adj.) 最大值／最大的	peak (n.) 最高峰(人數最多)
least (adv., adj.) 最少／最小	fewest (adj.) 最少	minimum (n.)/(adj.) 最小值／最小的	bottom out 達至最低潮
rare (adj.) 罕有的	rarest (adj.) 最少的	rarely (adv.) 罕有地	popular (adj.) 受歡迎的
unpopular (adj.) 不受歡迎	favorite (adj.) 喜愛的	second most … 第二最…	among … 在…之中
whereas (conj,) 反而	sale figure 銷售數字	broken-line graph (n.) 折線圖	trend (n.) 趨勢
pie chart (n.) 圓形圖	sector (n.) 扇形	proportional (adj.) 成比例	/

[e.g.] The teacher describes the meaning of triangle by drawing a diagram.
[e.g.] Most students in Hong Kong know English.
[e.g.] The temperature reaches at peak in August.
[e.g.] My mother asks me to score at least 60 marks in the examination.
[e.g.] My mathematics teacher rarely make calculation mistake.
[e.g.] His football skill is the best among his classmates.
[e.g.] Usually, body weight is proportional to the body height.

Vocabulary 2 (Section 14.2 Stem-and-Leaf Diagrams)

stem-and-leaf diagram (n.) 幹葉圖	stem (n.) 幹	leaf (n.) 葉	back-to-back stem-and-leaf diagram (n.) 背靠背幹葉圖

[e.g.] Stem-and-leaf diagram looks like a bar chart and it shows more details.

Vocabulary 3 (Section 14.3 Histogram - Section 14.4 Scatter Diagrams)

histogram (n.) 組織圖	class interval (n.) 組區間	class limit (n.) 組限	class boundary (n.) 組界	class mark (n.) 組中點
class width (n.) 組距	scatter diagram (n.) 散點圖	positive relationship (n.) 正相關關係	negative relationship (n.) 負相關關係	no obvious relationship (n.) 無明顯關係

[e.g.] There is no obvious relationship between body weight and IQ.
[e.g.] Class mark is the mid-point of upper class limit and lower class limit.

Vocabulary 1 (Revision: about money)

amount (n.) 金額	earn (v.) 賺取	cost (v.) 需支付…錢	cost (n.) 價值, 成本
expenditure (n.) 支出	income (n.) 收入	pay, spend, spent (v.) 付出	payment(n.) 付款
price (n.) 價錢	salary (n.) 薪金	sell, sold (v.) 賣	needed, required (adj.) 所需的
requirement(n.) 需求	pocket money (n.) 零用錢		

[e.g.]	Amount that Peter spends on soft drinks	= 5 × 4	= $20
[e.g.]	Amount spent on soft drinks	= 5 × 4	= $20
[e.g.]	Amount needed to buy soft drinks	= 5 × 4	= $20
[e.g.]	Peter's expenditure on soft drink	= 5 × 4	= $20
[e.g.]	The cost/price of soft drink	= 5 × 4	= $20

Vocabulary 2 (Revision: about time)

spend, spent (v.) 付出	at the beginning 最初	old (adj.) 舊的, 以前的	Original, originally (adj., adv.) 原來的
new (adj.) 新的	annual, annually (adj., adv.), yearly (adv.) 每年	monthly (adj., adv.) 每月	weekly (adj., adv.) 每週
daily (adj.) 每日	century (n.) 世紀	minute (n.) 分鐘	second (n.) 秒

[e.g.]	Time spent on doing homework	= 2 × 30	= 60mins
[e.g.]	Time needed	= 2 × 30	= 60mins
[e.g.]	Peter's monthly income	= 100 × 30	= $300
[e.g.]	Peter's annual income	= 100 × 30 × 12	= $3600

Vocabulary 3 (Revision: about quantity)

a piece of … 一件, 一塊, 一張	a pair of … 一對	each (adj.) 每個	per (adj.) 每個
on average 平均地	dozen (n.) 打 (十二個)	greatest, maximum 最大的 (adj.)	smallest, minimum 最小的 (adj.)

[e.g.]	Price of each apple	= 24 ÷ 12	= $2
[e.g.]	Price per apple	= 24 ÷ 12	= $2
[e.g.]	Price of a dozen of apples	= 2 × 12	= $24
[e.g.]	maximum 2-digit number	= 99	
[e.g.]	minimum 2-digit number	= 10	

Vocabulary 4 (Section 1.1 Rates)

rate (n.) 率	unit (n.) 單位	express … in (v.) 以 … 表示
expression (n.) 表示方式	speed (n.) 速度	/

[e.g.] The rate of selling shoes is 160 pairs/day.
[e.g.] Express the rate of selling shoes in unit of pairs/day.
[e.g.] The speed of this car is 200 km/h.

Vocabulary 5 (Section 1.2 Ratios)

ratio (n.) 比	amount (n.) 數量	quantity / quantities (n.) 數量
respectively (adv.) 各自地	/	/

[e.g.] The ratio of the monthly salaries of Mr Ho and Mrs Ho is 4 : 3.
[e.g.] The amount of coins in this bag is 100.
[e.g.] The respective amounts that Peter and Mary spent are $100 and $120.

Vocabulary 6 (Section 1.3 Applications of Ratios)

application (n.) 應用	similar figure 相似圖形	shape (n.) 形狀
size (n.) 大小	corresponding (adj.) 對應的	enough (adj.) 足夠的
notation (n.) 符號	scale (n.) 比例	map (n.) 地圖
actual / real ,actually (adj./adv) 實際的／地	real object 實際物件	/

[e.g.] The classroom is in rectangular shape.
[e.g.] The actual size of this classroom is $480\,m^2$.
[e.g.] The corresponding areas of room A and room B are $300\,m^2$ and $480\,m^2$.
[e.g.] The scale of the map is 1 : 800 000.

Vocabulary 1 (Section 2.0 Manipulation of Simple Polynomials)

manipulation (n.) 運算	polynomial (n.) 多項式	term (n.) 項	constant term 常數項
horizontal form 橫式	column form 直式	simplify (v.) 化簡	expand (v.) / expansion (n.) 展開
descending (adj.) 由大至小	ascending (adj.) 由小至大	/	/

[e.g.] $2x^2-5x+1$ is an example of polynomial.
[e.g.] $2x^2-5x+1$ is a polynomial having three terms.
[e.g.] If we do not have calculator, we could calculate 54 × 17 by column form.
[e.g.] We have $2x+10$ after expanding $2(x+5)$.

Vocabulary 2 (Section 2.1 Meaning of Identities)

equation (n.) 方程	identity (n.) 恆等式	variables (n.) 變數	satisfy (v.) 滿足，符合
constant (n., adj.) 常數／不會改變的數	LHS = left hand side 左方	RHS = right hand side 右方	compare (v.) 比較
like terms 同類項	unlike terms 異類項	/	/

[e.g.] $x+x=2x$ is an identity but $x+x=x+1$ isn't.
[e.g.] x is the variable in $4x+6$.
[e.g.] 4 does not satisfy $x+2x+1=x+x+2$ so $x+2x+1=x+x+2$ is not an identity.
[e.g.] 6 is a constant in $4x+6$.
[e.g.] If $3x + 2 \equiv Ax + B$, by comparing the LHS and RHS, we have $A = 3$ and $B = 2$.

Vocabulary 3 (Section 2.2 Factorization of Simple Algebraic Expressions)

factorize (v.) / factorization (n.) 因式分解	algebraic expression 代數式	factor (n.) 因子 / 因式
common factor 公因數 / 公因式	/	/

[e.g.] We have $2(x+5)$ after factorizing $2x+10$.
[e.g.] 3 is a common factor of 15 and 18.
[e.g.] $3a$ is a common factor of $6ab$ and $-9ac$.

Vocabulary 1 (Section 3.1 Manipulation of Simple Algebraic Fractions)

manipulation (n.) 運算	fraction (n.) 分數	algebraic fraction 代數分式
numerator (n.) 分子	denominator (n.) 分母	lowest common factor (LCM) 最小公倍數
expand a fraction 擴分	/	/

[e.g.] Addition is one kind of the manipulations.

[e.g.] $\frac{2x+4}{x+1}$ is an algebraic fraction, where $(2x + 4)$ is the numerator and $(x + 2)$ is denominator.

[e.g.] Before evaluating $\frac{1}{3}+\frac{2}{5}$, we should expand $\frac{1}{3}$ and $\frac{2}{5}$ to $\frac{5}{15}$ and $\frac{6}{15}$ respectively.

Vocabulary 2 (Section 3.2 Formulas and their Manipulations)

formula (n.) 公式	subject (n.) 主項	substitute (v.) 代入
consider (v.) 考慮	/	/

[e.g.] A is the subject of the formula $A=\frac{(u+v)h}{2}$.

[e.g.] After substituting $x = 3$ into the formula $y = x + 5$, we have $y = 7$.

[e.g.] By considering the angle sum of triangle, we see that it is impossible to have two obtuse angles in a triangle.

Vocabulary 1 (Section 4.1 Factorization of Cross-method)

factorization (n.) 因式分解	factorize (v.) 因式分解	factor (n.) 因式／因子
cross-method (n.) 十字相乘法	trial (n.) 試驗	/

[e.g.] $(x + 1)$ is a factor of x^2+3x+2 because $x^2+3x+2=(x+2)(x+1)$.

[e.g.] To factorize x^2-6x+9, we can use cross-method or the identity in chapter 2.

[e.g.] After three trials, we see that $x^2-5x+6=(x-2)(x-3)$.

Vocabulary 2 (Section 4.2 Sum and Difference of Two Cubes)

cube (n.) 立方／三次方	/	/

[e.g.] Cube of 5 means $5 \times 5 \times 5$.

[e.g.] 27 is the cube of 3 because $3 \times 3 \times 3 = 27$.

Vocabulary 1 (Revision)

actual value 真確值	accurate / accurately (adj./adv.) 準確的/地	approximation / approximate value 近似值
approximate / estimate (v.) 估計	estimation (n.) 估計	round off 四捨五入
measure (v.) 量度	measured value 量度值	measurement (n.) 量度
decimal place 小數位	correct to the nearest … 準確至最接近的…	

[e.g.] When taking approximation to the actual value 50.236 ml correct to the nearest ml, the approximate value is 50 ml.

[e.g.] When rounding off 3.679 correct to 1 decimal place, the approximate value is 3.7.

Vocabulary 2 (Section 5.1 Significant Figures)

significant figure 有效數字	average (adj.) 平均數	speed (n.) 速度	/

[e.g.] When rounding off 3.679 correct to 1 significant figure, the approximate value is 4.
[e.g.] Peter's average running speed is 36 m/s.

Vocabulary 3 (Section 5.2 Errors)

error (n.) 誤差	absolute error 絕對誤差	close / closer to 接近 / 較接近	accurate (adj.) 準確的
scale interval 刻度間距	maximum absolute error 最大絕對誤差	lower limit 下限 / 最小值	upper limit 上限 / 最大值
minimum (adj., n.) 最小值	maximum (adj., n.) 最大值	relative error 相對誤差	percentage error 百分誤差
possible (adj.) 可行 / 可能發生的	/	/	/

[e.g.] The scale interval of this ruler is 1 mm.
[e.g.] The possible value of the length of this paper ranges from 1.15 cm to 1.25 cm.
[e.g.] Compared with the value 1.2, the value 1.1 is closer to 1.

Vocabulary 1 (Section 6.0 Revision)

angle (n.) 角	adjacent angle 鄰角	opposite angle 對角	vertically opposite angle 對頂角
parallel lines 平行線	corresponding angle 對應角	alternate angle 錯角	interior angle 內角
degree (n.) 度	theorem (n.) 定理		

[e.g.] By using the theorem in this chapter, we know that the sum of interior angles of a triangle is one hundred and eighty degrees.

Vocabulary 2 (Section 6.1 Angles and Sides of a Triangle)

related to … 關於…的	angle sum of triangle 三角形內角和	exterior angle 外角	Produce / production (v. / n.) 延長／生產
meet (v.) 相交，遇上	join (v.) 連結	prove (v.) 證明	show (v.) 證明
proof (n.) 證明	isosceles triangle 等腰三角形	property / properties (n.) 特性	equilateral triangle 等邊三角形
Opposite / opposition (adj. / n.) 對面的	determine (v.) 判斷	Whether/ if (conj.) 是否	Bisect / bisection (v./ n.) 平分 (分成兩等份)

[e.g.] This chapter is related to geometry.
[e.g.] By using a ruler, we can determine whether the length of this line is longer than 8 cm.
[e.g.] A property of square is that it has four right angles.
[e.g.] John proves his ability in mathematics through the examination.
[e.g.] In square *ABCD*, if we join *AC*, then the square is divided into two right-angled triangles.
[e.g.] Produce a line elongated from the base of this triangle *BC* to meet a point *D*.
[e.g.] In this square, the side *AB* is opposite to another side *CD*.

Vocabulary 3 (Section 6.2 Angles of Polygon)

polygon (n.) 多邊形	triangle (n.) 三角形	quadrilateral (n.) 四邊形	pentagon (n.) 五邊形
hexagon (n.) 六邊形	heptagon (n.) 七邊形	octagon (n.) 八邊形	*n*-sided polygon *n* 邊形
regular polygon 正多邊形	interior angle 內角	exterior angle 外角	convex polygon 凸多邊形
concave polygon 凹多邊形			

Vocabulary 4 (Section 6.3 Tessellation)

tessellation (n.) 密鋪平面	tessellate (v.) 密鋪平面	combination (n.) 組合	Combine (v.) 合併

[e.g.] The design of this table comes from the combination of the ideas of both France and Japanese designers.

Vocabulary 1 (Section 7.1 Frequency Distribution and its Graphical Representation)

statistics (n.) 統計／統計學	frequency (n.) 頻數	frequency distribution table 頻數分佈表
class interval (n.) 組區間	class limit (n.) 組限	class boundary (n.) 組界
class mark (n.) 組中點	class width (n.) 組距	bar chart (n.) 棒形圖
histogram (n.) 組織圖	frequency polygon 頻數多邊形	frequency curve 頻數曲線
horizontal axis 橫軸	vertical axis 縱軸	cumulative (adj.) 累積
cumulative frequency 累積頻數	cumulative frequency table 累積頻數表	cumulative frequency polygon 累積頻數多邊形
cumulative frequency curve 累積頻數曲線	median (n.) 中位數	lower quartile 下四分位數
upper quartile 上四分位數	percentile (n.) 百分位數	in general 整體來說

[e.g.] From the statistics provided by the government, there were 88 600 new born babies in Hong Kong in 2010.

[e.g.] For a class with class interval 21 cm - 30cm, the class boundaries are 20.5 cm and 30.5cm and the median is (21+30)/2 = 25.5 cm

[e.g.] In histogram and frequency polygon, the vertical axis always represents frequency.

[e.g.] In the 1st term mathematics examination, the lower quartile, the median and the upper quartile of the scores of F.2 students were 52, 63 and 78 respectively.

[e.g.] In general, F.2 students commit less calculation mistake than F.1 students.

Vocabulary 2 (Section 7.2 Choosing an Appropriate Diagram to Present Data)

appropriate (adj.) 適當	diagram (n.) 圖表	present (v.) 表達

Vocabulary 3 (Section 7.3 Abuses of Statistical Diagrams)

abuse (n.) 濫用	/	/

Vocabulary 1 (Section 8.1 Linear Equation in Two Unknowns and their Graphs)

equation (n.) 方程	linear equation (n.) 線性方程	unknown (n.) 未知數	graph (n.) 圖像
lie on 位於…上	pass through 穿過	satisfy (v.) 符合	/

[e.g.] (2, 5) lies on the graph of $y = x + 3$.

[e.g.] The graph of $y = x + 3$ passes through (2, 5).

[e.g.] There are two unknowns in the equation $y = 3x - 4$.

Vocabulary 2 (Section 8.2 Simultaneous Linear Equations in Two Unknowns and their Solutions)

simultaneous equation 聯立方程	solution (n.) 解 / 答案	graphical method 圖解法	algebraic method 代數方法
substitution (n.) 代入法	substitute (v.) 代入	elimination (n.) 消元法 (消除代數)	eliminate (v.) 消元 (消除代數)
constant (n.) 常數 (不變的數)	intersection point 相交點	/	/

[e.g.] The solutions of $\begin{cases} y = 2x \\ y = x + 1 \end{cases}$ are $x = 1$ and $y = 2$.

[e.g.] We can solve $\begin{cases} y = 2x \\ y = x + 1 \end{cases}$ by graphical method or algebraic method.

[e.g.] Substituting $x = 5$ into $y = x + 1$, we have $y = 6$.

Vocabulary 3 (Section 8.3 Applications of Simultaneous Linear Equations in Two Unknowns)

respectively (adv.) 各自地 / 分別地	/	/	/

[e.g.] Let \$$x$ and \$$y$ be the prices of a watch and a mobile phone respectively.

Vocabulary 1 (Section 9.1 Laws of Positive Integral Indices)

law (n.) 法則，法律	integral (adj.) 整數的	index / indices (n.) 指數
cube (n.) 立方，立方體	power (n.) 次方	simplify (n.) 化簡
square (n.) 平方，正方形	/	/

[e.g.] The freedom of speech is protected by the Basic Law in Hong Kong.
[e.g.] The square of 5 is 25.

Vocabulary 2 (Section 9.2 Zero and Negative Integral Indices)

positive index / positive indices 正指數	Negative (adj.) 負數的…

[e.g.] The index of x in x^{-3} is a negative number.

Vocabulary 3 (Section 9.3 Scientific Notation)

scientific notation 科學記數法	express in …(v.) 以…來表示

[e.g.] Peter expresses his feeling in symbols in What's app.

Vocabulary 4 (Section 9.4 Different Numeral Systems [Not included in notes])

numeral Systems 數字系統	denary system 十進制	binary system 二進制
hexademical System 十六進制	place value 位值	convert (v.) 轉換

[e.g.] The place value of 3 in 12345 is one hundred.
[e.g.] Any number in binary system is formed by the digits of 1 and 0 only.

Vocabulary 1

(Section 10.1 Basic Concept of Deductive Reasoning Section 10.2 Deductive Geometry)

introduction (n.) 介紹	introduce (v.) 介紹	deductive (adj.) 演繹，推論	deduction (n.) 演繹，推論
deduce (v.) 演繹，推論	reason (n.), (v.) (說明)理由／原因	reasoning (n.) 推理	condition (n.) 條件
conclusion (n.) 結論	conclude (v.) 作出結論	definition (n.) 定義	define (v.) 定義
theorem (n.) 定理	axiom (n.) 公理	/	/

[e.g.] Please introduce yourself so that others can know more about you.
[e.g.] Her deduction that he was now dead was correct.
[e.g.] What is the reason why she is always absent from school?
[e.g.] After the discussion, we conclude to go to Shek O for picnic.
[e.g.] The condition to enter the school team is to run 100 m within 13 seconds.
[e.g.] The club must give a clear definition of its goals.

Vocabulary 2

(Section 10.3 Deductive Proofs about Angles related to Line and Triangles)

supplementary (adj.) 互補成 180°	/	/

Vocabulary 3

(Section 10.4 Deductive Proofs about Congruent, Isosceles and Similar Triangles)

hypotenuse (n.) (直角三角形上的)斜邊	congruent (adj.) 全等	common side 公共邊
common side 公共角	given (adj.) 已知	corresponding sides / angle 對應邊／角
similar (adj.) 相似	3 sides proportional 三邊成比例	ratio of 2 sides, inc. ∠ 兩邊成比例且夾角相等
proportional (adj.) 符合(正)比例	ratio (n.) 比率	included angle 夾角

[e.g.] It is given that the area of square A is greater than that of square B.
[e.g.] The thickness of notes is proportional to the number of pages.
[e.g.] 3 and 6 are in the same ratio as 5 and 10.

Vocabulary 4

(Section 10.5 Construction Using Compasses and Straight Edge)

construct (v.) 構作	construction (n.) 構作	compass (n.) 圓規
straight edge (無刻度的)直尺	angle bisector 角平分線	perpendicular bisector 垂直平分線

[e.g.] We can construct a circle by using a compass.

[e.g.] A straight edge is a tool for easy construction of a straight line.

Vocabulary 1 (Section 11.1 Square Roots and Surds)

square (n.) 平方 (二次方) / 正方形	square root 平方根	surd (n.) 根式
calculator (n.) 計算機	evaluate (v.) 計算	/

[e.g.] The square of 3 is 9.

[e.g.] The square root of 9 is 3.

[e.g.] A calculator is a useful tool for getting the approximate values of square roots.

Vocabulary 2 (Section 11.2 Rational and Irrational Numbers)

rational number 有理數	a fraction of integers 分子和分母皆為整數的分數	irrational number 無理數

[e.g.] Rational number can be expressed as an integer or a fraction of integer.

Vocabulary 3 (Section 11.3 Manipulation of Surds)

manipulation (n.) 運算	manipulate (v.) 運算	simplest surd 最簡根式
square factor 平方數因子	rationalize (v.) 有理化	Rationalization (n.) 有理化

[e.g.] Do you know how to manipulate this calculation?

Vocabulary 1 (Section 12.1 Pythagoras' Theorem and its Proof)

Pythagoras' theorem 畢氏定理	Right-angled triangle 直角三角形	Hypotenuse 斜邊
unknown (n.) 未知數	perimeter 周界	proof (n.) 證明
quadrilateral (n.) 四邊形	equilateral triangle 等邊三角形	/

[e.g.] Pythagoras' theorem can be used to find the length of one side of a right-angled triangle if we know the length of its other two sides.

[e.g.] The perimeter of an equilateral triangle is equal to 3 times of the length of one of its sides.

Vocabulary 2 (Section 12.2 Converse of Pythagoras' Theorem)

converse of Pythagoras' theorem 畢氏定理的逆定理	prove (v.) 證明	isosceles triangle 等腰三角形

[e.g.] Converse of Pythagoras' theorem can be used to prove whether it is a right-angled triangle.

Vocabulary 3 (Section 12.3 Applications of Pythagoras' Theorem and its Converse)

application (n.) 應用	horizontal / horizontally (adj. / adv.) 水平的	vertical / vertically (adj. /adv.) 垂直的
distance (n.) 距離	north (adj.), (n.) 北	south (adj.), (n.) 南
east (adj.), (n.) 東	west (adj.), (n.) 西	due north 正北面
prism (n.) 柱體	total surface area 總表面面積	lateral faces 側面
volume (n.) 體積	/	/

[e.g.] This ruler can measure the distance between these two tables in the classroom.

[e.g.] The ground was horizontal to the flagpole.

[e.g.] The north of the mountain is almost vertical.

Vocabulary 1 (Section 13.1 Circles)

circle (n.) 圓形	centre (n.) 圓心	diameter (n.) 直徑	radius / radii (n.) 半徑
circumference (n.) 圓周	perimeter (n.) 周界	pi (n.) 圓周率	decimal place 小數位
significant figure (n.) 有效數字	semi-circle (n.) 半圓形	wheel (n.) 車輪	revolution (n.) 圈 (因旋轉而形成)
area (n.) 面積	square root (n.) 開方根	/	/

[e.g.] The perimeter of a circle is called circumference.
[e.g.] Pi is approximately equal to 3.14.
[e.g.] We can measure distance travelled by a car if we count the number of revolution of a wheel.

Vocabulary 2 (Section 13.2 Arcs and Sectors)

arc (n.) 弧	sector (n.) 扇形	/	/

[e.g.] A sector is bounded by an arc and two radii.
[e.g.] An arc is a part of circumference.

Vocabulary 3 (Section 13.3 Cylinders)

cylinder (n.) 圓柱體	cylindrical (adj.) 圓柱體狀的	base (n.) 底	volume (n.) 體積
capacity (n.) 容量	depth (n.) 深度	outer (adj.) 外層的	inner (adj.) 內層的
thickness (n.) 厚度	tank (n.) 桶	rate (n.) 率／速度	curved surface area 曲面面積
total surface area 總表面面積	/	/	/

[e.g.] The capacity of a bottle means the maximum volume of water that can be filled in the bottle.
[e.g.] The thickness of this wall is 5 cm.
[e.g.] The outer layer of the bag is made of leather and its inner layer is made by plastic.
[e.g.] The rate of printing is 10 pages per minute for this printer.
[e.g.] This tank is full of oil.

Vocabulary 1 (Section 14.1　Introduction to Trigonometric Ratios)

right-angle (n.) 直角	adjacent side 鄰邊	opposite side 對邊	hypotenuse (n.) 斜邊
theta (n.) θ　(代數符號)	trigonometric ratio 三角比	/	/

[e.g.]　Hypotenuse is the longest side in a right-angled triangle.
[e.g.]　By using trigonometric ratio, we can find the length of unknown side in a right-angled triangle.

Vocabulary 2 (Section 14.2　Sine Ratio
Section 14.3　Cosine Ratio
Section 14.4　Tangent Ratio)

sine (n.) 正弦	cosine (n.) 餘弦	tangent (n.) 正切	calculator (n.) 計算機
if necessary, … 如有需要			

[e.g.]　Sine is the ratio between the opposite side and hypotenuse in a right-angled triangle.
[e.g.]　The short forms of sine, cosine and tangent are sin, cos and tan respectively.
[e.g.]　You may obtain an integer or a decimal number in your answer. If necessary, please give your answer correct to 1 decimal place.

Vocabulary 3 (Section 14.5　Simple Applications of Trigonometric Ratios)

application (n.) 應用	trapezium (n.) 梯形	/	/

[e.g.]　One of the applications of trigonometric ratio is to calculate the height of a building.

Vocabulary 4 (Section 14.6　Trigonometric Ratios on a Unit Circle)

unit circle 半徑長度為 1 單位的圓形	*x*-coordinate *x*-坐標	*y*-coordinate *y*-坐標

[e.g.]　Unit circle is a circle with radius 1 unit.

Vocabulary 1 (Section 1.1 Basic Concept of Inequalities, Section 1.2 Basic Properties of Inequalities)

inequality (n.) 不等式，不平等	inequality sign (n.) 不等式的符號	equation (n.) 方程	greater than / larger than / more than 大於，多於
less than / smaller than 小於，少於	exceed (v.) 超過，大於	represent (v.) 代表	graphically (adv.) 運用圖像

[e.g.] We must change the direction of the inequality sign when multiplying a negative number to the both sides of an inequality.

[e.g.] The total score of an exam paper should not exceed 100 marks.

[e.g.] Wong Kam Po represented Hong Kong to take part in the bicycle competitions in the Olympic Games 2012.

Vocabulary 2 (Section 1.3 Linear Inequalities in One Unknown)

satisfy / satisfies (v.) 滿足，符合	integer (n.) 整數	largest possible 最大可能的	positive (adj.) 正數的
negative (adj.) 負數的	maximum (adj.), (n.) 最大的	minimum (adj.), (n.) 最小的	consecutive numbers 連續數

[e.g.] 5, 6 and 7 are consecutive numbers while 5, 7 and 9 are consecutive odd numbers.

[e.g.] Any positive number x must satisfy the inequality $x > 0$.

Vocabulary 1 (Section 2.1 More about Percentages Increase and Decrease)

percentage (n.) 百分數	...per cents 百分之...	amount (n.) 金額，本利和	original (adj.) 原來的，本來的
percentage change 百分變化	current (adj.) 現在的	currently (adv.) 現在	is increased to … 增加至…
is increased by … 增加了…	successive (adj.) 連續的	overall (adj.) 整體的…	income (n.) 收入
salary (n.) 薪金	expenditure (n.) 支出	/	/

[e.g.] Tom's salary is $10000 currently and will be increased by 5 per cents to $10500 next year.
[e.g.] This football team loses their confident after a few successive defeats.
[e.g.] David did not do very well in the mathematics examination but his overall result was the best in F.3.
[e.g.] It is important to make sure your expenditure is less than your income.

Vocabulary 2 (Section 2.2 Increase or Decrease at a Constant Rate)

constant rate 固定的速度	growth factor 增長因子	depreciate (v.) 貶值	depreciation (n.) 折舊，衰退
decay factor 衰變因子	/	/	/

[e.g.] The price of iPhone depreciates at a constant rate in these months.

Vocabulary 3 (Section 2.3 Interest)

interest (n.) 利息，興趣	simple interest 單利息	compound interest 複利息	principal (n.) 本金，校長
interest rate 利率	per annum 每年	annually (adv.) 每年	annual (adj.) 全年的
amount (n.) 本利和，金額	compounded yearly 每年計息一次	compounded half-yearly 每半年計息一次	compounded quarterly 每季計息一次
compounded monthly 每月計息一次	deposit (v.) 存款	/	/

[e.g.] We can gain only little interest by depositing money in a bank because the interest rate is very low.
[e.g.] Joseph is a rich man because his annual income exceeds two million dollars.

Vocabulary 4 (Section 2.4 Taxation)

rates (n.) 差餉	rateable value 應課差餉租值	property tax 物業稅	rent (n.) (v.) 租金
rental income 租金收入	salaries tax 薪俸稅	tax allowance 免稅額	net chargeable income 應課稅入息

[e.g.] If you have rent out your property, then you have to pay property tax.
[e.g.] The higher the salary, the more salaries tax you have to pay.

Vocabulary 1 (Section 3.1 Important Lines in a Triangle)

angle bisector 角平分線	median (n.) 中線	altitude (n.) 高線	perpendicular bisector 垂直平分線
vertex (n.) 頂點	bisect (v.) 平分 (分成兩等份)	perpendicular (adj.) 垂直 (相交成 90°)	/

[e.g.] Another name of altitude in triangle is height.
[e.g.] Angle bisector, median, altitude and perpendicular bisector are always the same lines in equilateral triangles.
[e.g.] Point *B* lying on *AC* bisects the line *AC* so that *AB* is 4 cm and *BC* is also 4 cm.

Vocabulary 2 (Section 3.2 Relationship among the Three Sides of a Triangle)

relationship (n.) 關係	inequality (n.) 不等式	triangle inequality 三角不等式	/

[e.g.] Peter has a very good relationship with his classmates.

Vocabulary 3 (Section 3.3 Centres of a Triangle)

centre (n.) 中心	point of intersection 相交點	incentre (n.) 內心	inscribed circle 內切圓
circumcentre 外心	circumscribed circle 外接圓	centroid 形心	orthocentre 垂心

[e.g.] The centre of a rectangle is the point of intersection of its diagonals.
[e.g.] Inscribed circle of triangle is the circle that touches the three sides of the triangle.

Vocabulary 1 (Section 4.0 Revision)

angle (n.) 角	right-angle (n.) 直角	parallel (adj.) 平行	intersecting line 相交的線
isosceles triangle 等腰三角形	equilateral triangle 等邊三角形	polygon (n.) 多邊形	interior angle 內角
exterior angle 外角	congruent triangles 全等三角形	similar triangles 相似三角形	corresponding (adj.) 對應的…

[e.g.] If triangle *ABC* is congruent to triangle *DEF*, then angle *A* is corresponding to angle *D*.

Vocabulary 2 (Section 4.1 Quadrilaterals, Section 4.2 Parallelogram)

quadrilateral (n.) 四邊形	parallelogram (n.) 平行四邊形	opposite side 對邊	opposite angle 對角
diagonal (n.) 對角線	bisect (v.) 平分 (分成兩等份)	/	/

[e.g.] In the parallelogram *ABCD*, *AB* and *CD* are opposite sides and *AC* is a diagonal.
[e.g.] The length of diagonal of a square can be found by Pythagoras' Theorem.

Vocabulary 3 (Section 4.3 Rectangles, Squares, Rhombus, Trapeziums and Kites)

rectangle (n.) 長方形	square (n.) 正方形	rhombus (n.) 菱形	trapezium (n.) 梯形
right-angled trapezium 直角梯形	isosceles trapezium 等腰梯形	kite (n.) 鳶形 (鷂形)	adjacent side 鄰邊

[e.g.] Square is a special type of rectangle.
[e.g.] We can divide a rhombus into four congruent triangles by drawing the diagonals.

Vocabulary 4 (Section 4.4 Simple Proofs related to Parallelograms)

prove (v.) 證明	proof (n.) 證明	perpendicular (adj.), (n.) 垂直 (相交成 90°)

[e.g.] "sides opp. equal ∠s" can be used to prove two sides to be equal in length.

Vocabulary 5 (Section 4.5 mid-pt. theorem, Section 4.6 intercept theorem)

mid-point (n.) 中點	mid-point theorem 中點定理	intercept (n.) 截距	intercept theorem 截線定理

[e.g.] Sai Wan Ho is the mid-point between Shau Kei Wan and Tai Koo.

Vocabulary 1 (Section 5.0 Revision)

symmetric (adj.) 對稱的	symmetry (n.) 對稱	reflectional symmetry 反射對稱
axis (axes) of symmetry 對稱軸	rotational symmetry 旋轉對稱	order of rotational symmetry 旋轉一圈的重複次數

[e.g.] All rectangles have reflectional symmetry.
[e.g.] Rhombus has 2 axes of symmetry.

Vocabulary 2 (Section 5.1 Symmetries of Solids)

solid (n.) 固體／立體	planes of reflection 反射(對稱)平面	cube (n.) 正方體／立方體	axis of rotational symmetry 旋轉對稱軸

Vocabulary 3 (Section 5.2 Nets of Solids)

net (n.) 摺紙圖樣	fold (v.) (把圖樣) 摺成...	coincide (v.) 重疊	/

[e.g.] Folding a rectangle along the axis of symmetry, the two halves coincide.

Vocabulary 4 (Section 5.3 2-D Representation of Solids)

represent (v.) 代表	representative (n.) 代表	representation (n.) 表達方式	orthographic views 三視圖

[e.g.] Peter is the subject representative of mathematics.
[e.g.] We represent the number of apples by x so that we can set up the equation $3x + 40 = 61$.

Vocabulary 5 (Section 5.4 Points, Lines and Planes in Solids)

projection (v.) 投影	plane (n.) 平面	horizontal plane 水平面	vertical plane 垂直面
intersection line 相交線	/	/	/

Vocabulary 6 (Section 5.5 More about Solids)

polyhedron (n.) 多面體	polygon (n.) 多邊形	vertex, vertices (n.) 頂點	edge (n.) 邊
face (n.) 面	regular polyhedron 正多面體	regular polygon 正多邊形	tetrahedron (n.) 四面體
octahedron (n.) 八面體	dodecahedron (n.) 十二面體	icosahedron (n.) 二十面體	/

[e.g.] Polyhedron is a 3-D object whose faces are polygon.

Vocabulary 1 (Section 6.1 Introduction to Central Tendency, Section 6.2 Arithmetic Means)

central tendency 集中趨勢	average (n.) 平均值	arithmetic mean 算術平均數	mean (n.), (adj.) 算術平均數
datum (n.) (一個) 數據	data (n.) (多個) 數據	frequency (n.) 頻數, 數量	class mark 組中點

[e.g.] The government wants to know the average income of the families in Hong Kong so they collect data by doing a survey.

Vocabulary 2 (Section 6.3 Medians)

median (n.) 中位數	odd number 單數	even number 雙數	/

[e.g.] The median score of our class is 68 marks so half of our classmates scored higher than or equal to 68 marks in the test.

Vocabulary 3 (Section 6.4 Modes and Modal Classes)

mode (n.) 眾數	modal class 眾數組	/	/

Vocabulary 4 (Section 6.5 Comparing Different Types of Averages Section 6.6 Misuses of Averages and Consequences of Misuses)

compare (v.) 比較	comparison (n.) 比較	reflect (v.) 反映	suitable (adj.) 適合
extreme value 極端的數值	affect (v.) 影響	misuse (v.), (n.) 誤用	/

[e.g.] We can compare the performance of F.1A and F.1B in the test by finding their mean and median scores.

[e.g.] The median height of F.1A is 1.7 m. It reflects that F.1A students are very tall.

Vocabulary 5 (Section 6.6 Further Investigation on Averages)

remain (v.) 保持	unchanged (adj.) 不變	/	/

[e.g.] Although he has been on diet for a week, his weight remains unchanged.

Vocabulary 6 (Section 6.7 Weighted Mean)

weighted mean 加權平均數	weight (n.) 權／比重	/	/

Vocabulary 1 (Section 7.1 Pyramids)

area (n.) 面積	volume (n.) 體積	pyramid (n.) 棱錐，金字塔	base area 底面積
height (n.) 高	right pyramid 直立棱錐	regular pyramid 正棱錐	slant edge 斜棱
frustum (n.) 平截頭體	upper base 上底	lower base 下底	lateral face 側面

[e.g.] The pyramids are tourism hotspots in Egypt.

Vocabulary 2 (Section 7.2 Circular Cones)

cone (n.) 圓錐	conical (adj.) 圓錐形的	circular (adj.) 圓形的	cylinder (n.) 圓柱體
cylindrical (n.) 圓柱形的	base radius 底半徑	slant height 斜高	melt (v.) 熔化
recast (v.) 重新鑄成	curved surface area 曲面面積	total surface area 總表面面積	capacity (n.) 容量

[e.g.] I want a cone of chocolate ice-cream rather than a cup of that.
[e.g.] The bottle is in a cylindrical shape.
[e.g.] Metal melts in high temperatures.
[e.g.] The capacity of the bottle is 2.5 L.

Vocabulary 3 (Section 7.3 Spheres)

sphere (n.) 球體	hemisphere (n.) 半球體	solid (n.), (adj.) 固體，實心的	/

[e.g.] The shape of a basketball is a sphere, not a circle.

Vocabulary 4 (Section 7.4 Formulas for Lengths, Area and Volumes)

Vocabulary 5 (Section 7.5 Similar Shapes)

dimension (n.) 維，尺寸	similar shapes 相似形狀	/	/

[e.g.] The dimensions of the television are 120 cm × 50 cm × 30 cm.

Vocabulary 1 (Section 8.1 Distance between any two points, Section 8.2 Slope of a Straight Line, Section 8.3 Parallel and Perpendicular Lines)

coodinates (n.) 坐標	*x*-axis *x* 軸	*y*-axis *y* 軸	origin (n.) 原點
distance 距離	horizontal line 水平線	vertical line 垂直線	slope (n.) 斜率
collinear (adj.) 在同一直線上	lie on 位於	parallel (adj.) 平行	perpendicular (adj.) 垂直 (相交成 90°)
inclination (n.) 傾角	steep (adj.) 傾斜的，陡峭的	/	/

[e.g.] This mountain is very steep. Beware of the roads here.

[e.g.] Two perpendicular lines means two lines forming a right angle with each other.

[e.g.] If three points *A*, *B* and *C* are **collinear** , they lie on the same straight line.

Vocabulary 2 (Section 8.4 Point of Division, Section 8.5 Using Analytic Approach to Prove Results Relating to Rectilinear Figures)

mid-point (n.) 中點	internal point of division 內分點	section formula 截點公式
analytic approach 解析法	introduce (v.) 引入，介紹	/

[e.g.] Sai Wan Ho is the mid-point between Shau Kei Wan and Tai Koo.

[e.g.] In the first school day, the teachers introduce themselves to their students.

Vocabulary

adjacent side 鄰邊	opposite side 對邊	hypotenuse (n.) 斜邊	theta (n.) θ (代數符號)
acute angle 銳角	sine (n.) 正弦	cosine (n.) 餘弦	tangent (n.) 正切

[e.g.] Sine is the ratio between the opposite side and hypotenuse in a right-angled triangle.
[e.g.] The short forms of sine, cosine and tangent are sin, cos and tan respectively.

Vocabulary

apply (v.) 應用／申請	application (n.) 應用／申請	gradient (n.) 斜率	inclination 傾角
angle of elevation 仰角	angle of depression 俯角	bearing 方位角	compass bearing 羅盤方位角
true bearing 真方位角	direction (n.) 方向	north (n.), (adj.), (adv.) 北	east (n.), (adj.), (adv.) 東
south (n.), (adj.), (adv.) 南	west (n.), (adj.), (adv.) 西	northeast (n.),(adj.),(adv.) 東北 (代號：NE)	northwest (n.),(adj.),(adv.) 西北 (代號：NW)
southeast (n.),(adj.),(adv.) 東南 (代號：SE)	southwest (n.),(adj.),(adv.) 西南 (代號：SW)	due east 正東面	notation (n.) 記號

[e.g.]　Sai Wan Ho is on the west of Shau Kei Wan.
[e.g.]　Japan is on the northeast of Asia.
[e.g.]　If you go due south for 10 km, you will arrive at the forest.

Vocabulary (Section 11.1　Probability)

probability (n.) 概率	possible outcome 可能結果	event (n.) 事件
outcomes favourable to the event *E* 對事件 *E* 的理想結果	toss (v.) 擲硬幣	coin (n.) 硬幣
head (n.) 硬幣的正面	tail (n.) 硬幣的背面	spade (n.) (撲克牌的) 葵扇
heart (n.) (撲克牌的) 紅心	club (n.) (撲克牌的) 梅花	diamond (n.) (撲克牌的) 楷磚
face card (撲克牌的) J, Q, K	dice / die (n.) 骰子	fair dice / die 骰子，且每面機會相等
square number 正方形數	prime number 質數	at random 隨機，隨意地
randomly (adv.) 隨機，隨意地	equal likely 有相同的機會出現	impossible event 不可能事件
certain event 必然事件	／	／

[e.g.]　I ordered a set lunch at random and luckily it is very delicious.
[e.g.]　Tom runs very fast so he is equally likely to win in the 100 m run and the 200 m run.
[e.g.]　David hasn't done any revision so getting a pass in the test is an impossible event for him.

Vocabulary (Section 11.2　Further Problems on Probability)

tree diagram 樹形圖	table (n.) 表格	geometric probability 幾何概率
dart (v.) 發鏢	dartboard (n.) 鏢靶	lucky draw 抽獎

Vocabulary (Section 11.3　Experimental Probability)

experimental probability 實驗概率	empirical probability 實驗概率	theoretical probability 理論概率
trial (n.) 試驗，嘗試	／	／

[e.g.]　They succeeded in the experiment on the fifteenth trial.

Vocabulary (Section 11.4　Expected Value)

expected value 期望值	／	／