



SECONDARY 3 CURRICULUM PACKAGE



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Established in 2010



Proven Track Record

PSLE- 92% AL1-AL3

O Lvl- 94% A1/A2

A Lvl- 93% A/B



No Registration or Material Fee

Specialised notes are provided by us for!



Personalised Progress Report

Our progress reports after each class allow you to keep track of what your child learns in class, as well as tutor's analysis of your child's strengths, areas for growth, and learning habits to maximise your child's potential.



Digital Whiteboards

No more fumbling through notes or confusing recaps. Besides, can you un-erase a traditional whiteboard?



THE EDUZ FACTOR



Efficient Communication Process

Our admins and teachers work hand-in-hand with parents to ensure our students progress. We also go an extra mile to assist you with your child's concerns about studies.



Our EduZ Teachers

Most of our teachers have at least 7 years of teaching experience. This ranges from current school teachers to ex-school teachers who have joined us as full-time tutors.



EduZ Tuition Woodlands- Quality Educat...

4.8 ★★★★★ (31) · Educational institution

306 Woodlands Street 31, #02-35

Opens 2 pm · 9062 5285

Online classes

Google

EduZ Tuition CCK - Quality Education fo...

4.9 ★★★★★ (58) · Education center

223 Choa Chu Kang Central, #01-237B Block 223

Opens 2 pm · 9797 3786

On-site services · Online classes

EduZ Tuition Admiralty - Quality Educati...

4.9 ★★★★★ (61) · Education center

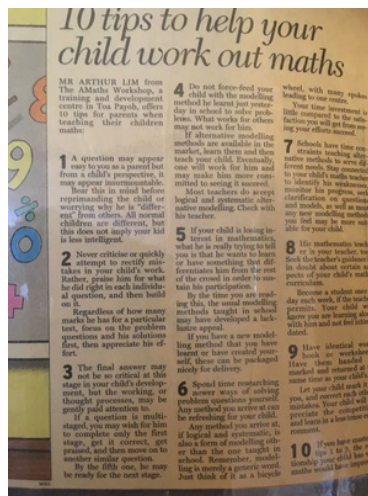
736 Woodlands Cir, #01-513

Opens 2 pm · 8940 7170

On-site services · Online classes

THANK
YOU
FOR
TRUSTING
US
WITH
YOUR
CHILD'S
ACADEMIC
EXCELLENCE

Newspaper



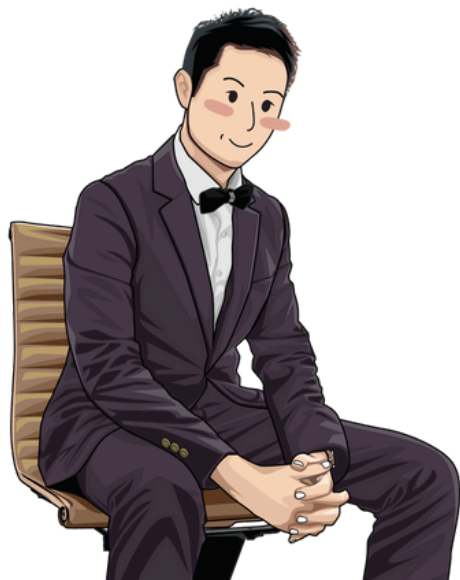
LISTED
on Rating.sg



Best in Singapore



SOME OF OUR EDUZ TUTORS



Dave

More than 12 years teaching exp
Ex NYJC teacher
Nanyang Scholar
1st Class Honours



Johnathan

More than 12 years teaching exp
Ex NYGHS, TMJC teacher
Nanyang President Research
Scholar
1st Class Honours



Cherry

More than 5 years teaching exp
Primary Level Head
Overall coordinator of
EduZ Primary School Notes



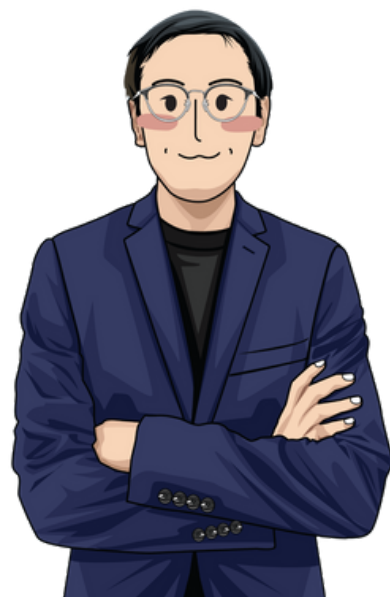
Wei Quan

More than 7 years teaching exp
Full time private tutor
Overall coordinator of EduZ
Secondary School Notes



Yu 老师

More than 20 years of teaching exp
Overall coordinator of the
EduZ Chinese Program



Gerald

More than 8 years teaching exp
Full time private tutor
Overall coordinator of
EduZ Primary School Notes

Some Reviews



B

4 reviews · 1 photo



★★★★★ 2 months ago

Have good experience sending my girl to this branch for Primary Math in 2023. Teacher Gerald is very good at identifying the topics my girl is not confident with. He helps her to build the concept foundation and then her confidence on complex questions step-by-step. Her Math results improve and becomes more consistent at year end and PSLE. Not forgetting to mention, the centre admin Jodi, in EduZ Tuition CCK branch is always very friendly, flexible and understanding when handling admin matters. I'm very happy to find this tuition centre that both my girl and me are comfortable with.



Local Guide · 265 reviews · 1192 photos

★★★★★ a year ago

Conveniently located in Choa Chu Kang with a 5 minutes walk from the MRT station or perhaps less than 3 minutes walk from South View LRT.

The teachers here are patient and nice.



1 review

★★★★★ 5 days ago

NEW

airconditioned, clean and have a huge monitor screen so that everyone can see the words. Teachers and staff are friendly and very swag. They very understanding also.



A

2 reviews



★★★★★ a month ago

My Son sec4 express, he start tuition of the Pure Chem, Pure phy, Emath and English on Nov 2023, the teacher are friendly and teach in line as what school teach, my son very happy to have the tuition in EduZ, can see he become interest in his study and improve his study.



Emiline Tay

1 review



★★★★★ a month ago

My Daughter's Chinese has improved in her PSLE since we enrolled her with EduZ Tuition Bot at CCK Central. her teachers in the center are experienced and patient.

The EduZ Youtube



CLICK ON
THE
IMAGES TO
WATCH
THE
VIDEOS



Welcome to
EduZ Tuition!



Learning in
progress!

The EduZ
Experience

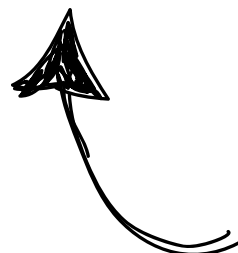


Table 1: Selected macroeconomic indicators of Italy

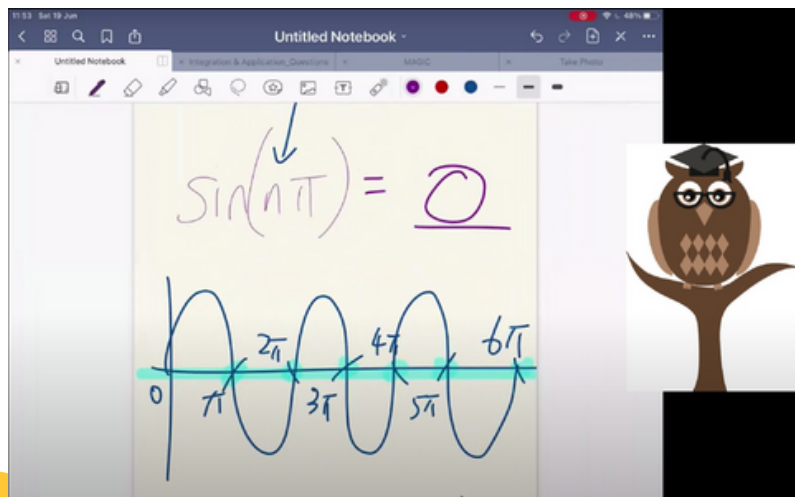
	2014	2015	2016	2017
Real GDP Growth (annual %)	0.1	0.5	1.1	0.5
Consumer Prices (annual %)	0.24	0.06	-0.09	1.23
Unemployment (% of total labour force)	12.5	13.1	11.5	11
Nominal Interest Rate (%)	0.05	0.05	0.0	0.0
Public Debt (% of GDP)	131.5	131.3	131.1	131.3

(a) (i) Explain the link between economic growth and public debt. [1]
(ii) In the case of Italy, does the data in Table 1 support the above relationship? [2]
(b) (i) Using Table 1, explain why real interest rate has been mostly negative in Italy. [2]

Extract 3: The Japanese economy - is Abenomics working?

Japan had a relatively good year in 2016 and the momentum continues into 2017. However, underlying domestic private consumption and investment remain moderate, and inflation remains stubbornly low. The Bank of Japan admitted that raising inflation to the 2 percent policy target was taking much longer than expected. Having an inflation rate that is too low for a prolonged period causes the economy to lose its momentum and one overarching concern is that households and businesses will expect even lower inflation in the future, causing them to hold back their spending.

Let us step back and revisit the much-hyped "three arrows" of Abenomics.



Lesson Flow

Below is a typical study flow for EduZ students.
Depending on the Tutor, there may be variations to the lesson flow.

Step 1

On arrival, the tutor will collect and review the completed homework with the class.

Step 2

The tutor will highlight important content on the syllabus and share important notes with your child.

Step 3

At the centre, your child will complete the assigned worksheets.

Step 4

The tutor will correct and go through the worksheets in class. Your child can also clarify his/her doubts during Q&A sessions.

Step 5

To maximise learning, worksheets will be assigned as homework for enrichment purposes.



SECONDARY 3 E.MATH CURRICULUM

S3 Elementary Mathematics (E.Math) is build upon foundational concepts learned in Mathematics from lower secondary. More complex concepts are taught while essential mathematical presentation and analytical skills are honed.

Secondary 3 E.Math Syllabus

1. Indices
2. More about Quadratic Equations
3. Linear Inequalities
4. Conditions of Congruence and similarity
5. Coordinate geometry
6. Functions and Graphs
7. Trigonometry
8. Application of Trigonometry
9. Arc Lengths, Sector Areas and Radian Measure
10. Indices and Standard Form
11. Properties of circles
12. Real world context applications
13. Secondary 1 and 2 topics

PAPER 1: SHORT RESPONSE QUESTION

Total: 90 marks, 26 questions*

Duration: 2 hours 15 minutes

PAPER 2: LONG STRUCTURED QUESTION

Total: 90 marks, 10 questions*

Duration: 2 hours 15 minutes

*Note: Number of questions, duration and total marks vary depending on schools



Structured and organized curriculum

The curriculum is designed to align with the requirements of the O Levels, covering the topics and skills necessary in a structured and organised curriculum.



Interactive and engaging teaching methods

By leveraging tablets in teaching, it allows immediate feedback and assessment. We create a dynamic and interactive classroom environment that supports students in developing a deeper understanding of challenging mathematical concepts.



Topical worksheets and concept drills

Topical worksheets and concept drills help students master each topic and strengthen their understanding of key concepts. We use these materials to identify any gaps in student's knowledge and tailor their teaching approach to address these areas.



Preparation for O Level Examinations

Secondary 3 E.Math emphasizes problem-solving skills. Ample techniques and practices such as mock exams and timed assessments were designed to help your child build their confidence O Level Examination.

CONTENT & LANGUAGE MASTERY

- S3 E.Math revises and expand students' knowledge on topics from the lower secondary math.
- New concepts include indices, coordinate geometry, set notation, matrices, properties of circles and further trigonometry and its application.

SKILLS AND TECHNIQUES

- Students are taught to integrate existing knowledge with upper secondary topics while honing their presentation skills.
- Building of good habits like double checking their own answers is also crucial to minimize the loss of marks.



Elementary Mathematics



Sec 3/4 E Maths (Express) Topical Notes Chapter 3: Indices Questions (Classroom)

Level 1

1) Simplify each of the following, giving your answer in positive index.

a) $12^5 \times 12^6 \times 12^{-4}$	b) $8^{11} \div 8^{-3} \times 8^5$
c) $2^{-6} \times 3^9 \times 3^{-2} \times 2^8$	d) $3 \times 7^6 \times 3^2 \times 7^{-3}$
e) $4^3 \times 5^2 \times 5^3 \times 4^6$	f) $2^{-2} \times 3^{-1} \times 4 \times 3^9$
g) $(-5)^{-2} \times (-5)^{11} \times -5$	h) $12^3 \div 4^3 \times 3^3$
i) $(7^8 \times 7^9)^3$	j) $11^5 \times 11^{-5} \div 11^{-6}$
k) $\left(\frac{18}{6}\right)^5 \times 3^5$	l) $\frac{2^8 \times 5^4}{2^5 \times 5}$
m) $\frac{3 \times 7^2 \times 11^5}{7^{-1} \times 11}$	n) $\frac{2^7 \times 2^5 \times 2^0}{(2^4)^2}$
o) $\frac{(3^2)^4 \times 4^8}{(2^4)^2}$	p) $\frac{6^9 \times 2^9}{3^5 \times 3^4}$
q) $\frac{10^6 \times 2^0}{5^6 \times 2^{-3}}$	r) $\frac{27^{-2} \times 5^7}{125^{-5} \times 9^{-3}}$



Elementary Mathematics



j) $(8x^0)^2$	k) $((2x^{-1})^{-2})^{-3}$	l) $(12x^3y^6)^0$
m) $(2xy^3)^4$	n) $(xy^2z^3)^3$	o) $(3x^3)^2 \times (2x^2)^3$

4) Simplify each of the following, giving your answer in positive index.

a) $(2x^{-1})^2 \div 8x^{-3}$	b) $(2x)^5 \times \left(\frac{1}{16}x^4\right)^{\frac{1}{2}}$
c) $\left(x^{\frac{2}{5}}\right)^{10} \div \left(x^{\frac{2}{3}}\right)^9$	d) $(4x^2y^3)^2 \div 8xy^2$
e) $(xy)^{\frac{1}{2}} \times x^{\frac{3}{2}} \div y^{\frac{1}{4}}$	f) $(-3x^2y^3)^3 \div 27x^{-3}y^{-4}$
g) $(xy)^5 \times x^{\frac{3}{2}} \div y^{\frac{1}{4}}$	h) $(8x^3y^5)^0 \div (4x^6)^{-1}$
i) $\left(\frac{4x^4}{y^2}\right)^{\frac{1}{2}} \times (2x^3)^{-1}$	j) $\frac{(x^3)^{-4} \times (xy)^8}{(x^{-2}y)^3}$
k) $\frac{(xy^2)^{-2}}{(x^{-2}y^3)^{-3}}$	l) $(-2x^5y^4)^3 \div (-4x^3y)^2$
m) $(8x^2)^{\frac{1}{3}} \times (8x)^{-1} \div (8x^{\frac{1}{3}})^0$	n) $10x^3 \div (8x^{-6})^{\frac{2}{3}}$



Elementary Mathematics



(i) $16^{2x} = 8^x \div 2^{x-2}$	(j) $(\frac{1}{4})^{x-2} \times 8^{2x+1} = 2$
(k) $16^{2x-1} \div \frac{1}{8^x} = 2^{18}$	(l) $(\frac{1}{5})^{x+1} \div 25^{x-2} = 125^{2x-3}$
(m) $(\frac{1}{2})^x \div 8^x = 16^{x+5}$	(n) $8^{x+3} \times 4^{x-1} \times 2^{x+1} = 16$
(o) $4^{x+3} \div 8^{x-4} = 0.5$	(p) $3^{x+1} \times (9^x)^2 \div 27^{x-3} = 81$
(q) $2^x \div 8^{x-2} \times 4^{2x+3} = \frac{1}{16}$	(r) $2^{15} - 2^{14} = \frac{1}{2^x}$
(s) $5^{11} - 5^{10} = \frac{4}{5^x}$	(t) $2^x + 2^2 = 20$

Level 3

1) Solve the following equations.

(a) $(2^x)(5^{y-1}) = 20^{2x+3}$

(b) $3^{38} - 3^{37} = \frac{2}{3^x}$

2) (a) Solve the equation $64 \times 216^x = 54^x$.

(b) Given that n is an even number and $\frac{x^{3n+5}}{x^{4-2n}} = 32^n \times 2$, find the value of x .

3) (a) Show that $2^{3m+2} + (\frac{1}{8})^{-1-m} - \sqrt{64^m}$ is divisible by 11 for all positive integer values of m .

(b) Evaluate $\frac{2^{n+4} - 9(2^n)}{10(2^{n-1})}$, giving your answer as a fraction.

SECONDARY 3 A.MATH CURRICULUM

S3 Additional Mathematics (A.Math) is a set of concepts that is more advanced than E Math. Problem sums require longer more complicated formulae to solve. Nonetheless, the underlying mathematical technique is highly similar to E Math and guidance will be provided to students.

Secondary 3 A.Math Syllabus

1. Equations and inequalities
2. Indices and surds
3. Polynomials and Partial Fractions
4. Binomial expansions
5. Power, Exponential, Logarithmic, and Modulus functions
6. Trigonometric functions, identities and equations
7. Coordinate geometry in two dimensions
8. Trigonometric functions, identities and equations

END OF YEAR PAPER:

Total: 90 marks, 12-15 questions*

Duration: 2 hours 15 minutes

*Note: Number of questions, duration and total marks vary depending on schools

S3 A.Math End-of-Year Examination usually consists of one paper only. GCE O Level Examination consists of Paper 1 and Paper 2.



Sequential Progression

Our curriculum is organized in a logical and sequential manner, building upon previously learned concepts. Each topic is introduced in a coherent order, allowing students to grasp new concepts progressively and reinforcing their understanding along the way.



Individualized Attention and Support

Students are introduced A.Math for the first time. The individualized approach employed by tutors enables them to identify specific areas where students might face difficulties, allowing for personalized guidance and targeted practice to address these challenges and enhance their proficiency in A.Math.



Topical worksheets and concept drills

Topical worksheets and concept drills help students master each topic and strengthen their understanding of key concepts. We use these materials to identify any gaps in student's knowledge and tailor their teaching approach to address these areas.



Practice and Exam Preparation

Wide range of practice materials, including past year exam papers and mock tests are provided to help students familiarize themselves with the exam format and develop effective exam strategies. This drill examination techniques and help students build confidence to perform well in their Secondary 3 A.Math Examination.

CONTENT & LANGUAGE MASTERY

- S3 A.Math focuses largely on advanced trigonometry with concepts on addition formula, double-angle formula, and R formula and drawing of the sine and cosine graphs.
- Non-trigonometry concepts are still covered, and these includes inequalities, indices and surds, polynomials and partial fractions and binomial expansions.

SKILLS AND TECHNIQUES

- Manipulation of symbols and functions is a crucial skill in A.Math.
- Students are also frequently expected to prove expressions using identities and formulae and communicate inferences and conclusions to problem sums.



Additional Mathematics



Sec 3/4 A Maths Topical Notes Chapter 3: Polynomials Questions (Classroom)

Level 1

1. Expand each of the following.
 - a. $(3x + 5)(x^2 - 8x - 7)$
 - b. $(6x^2 + x + 2)(10 - x^2)$
2. Find the coefficient of x^3 in the expansion of $(5x^2 - x + 1)(2x^2 + 3x - 9)$.
3. Find the values of the unknowns in each of the following.
 - a. $A(x + 5)(x - 2) + B(x - 2) = 4x^2 + 8x - 32$
 - b. $A(3x + 1) + B(1 - 3x) = 10$
 - c. $10x^2 - 33x - 20 = A(x + 1)(4 - x) + B(4 - x) + C$
 - d. $A - x^2 = 12 + B(x - 3) + C(x - 3)^2$
4. Given that $5x^3 - 27x^2 - 110x + 48 = (5x - 2)(x + 3)(ax + b)$ for all values of x , find the values of a and b .
5. Given that $4x^2 - 12x + 7 = a(x + b)^2 + c$, find the values of a , b and c .
6. Find the remainder when $12x^3 + 25x^2 + 3x - 12$ is divided by
 - a. $x - 1$,
 - b. $4x + 7$.
7. Find the remainder when $5x^5 - 2x^4 - 3x^3 + 4x^2 + 3x + 6$ is divided by
 - a. $x - 1$
 - b. $x + 1$
8. When $f(x) = 2x^3 - 3x^2 + px - 12$ is divided by $x - 3$, the remainder is 27.
 - a. Find the value of p .
 - b. Find the remainder when $f(x)$ is divided by $2x - 1$.
 - c. Show that $x - 2$ is a factor of $f(x)$.
9.
 - a. Divide $12x^3 + 5x^2 + 6x - 8$ by $4x - 1$ and state the remainder.
 - b. Hence, express $12x^3 + 5x^2 + 6x - 8$ in terms of $4x - 1$.
10. When the expression $x^3 + 2px + 2$ is divided by $x - 2$, the remainder is three more than the remainder when the expression is divided by $x + 1$. Find the value of p .
11. The remainder when $x^3 - 3x^2 - 2x + k$ is divided by $x - 3$ is half of the remainder when it is divided by $x + 2$. Find the value of k .
12. Show that $x - 2$ is a factor of the polynomial $f(x) = x^3 - 4x^2 + x + 6$. Hence, factorise $f(x)$ completely.



Additional Mathematics



Level 2

1. The function f is defined by $f(x) = 16x^4 + 8ax^3 - 6x^2 - 28x + a$, where a is a constant. When $f(x)$ is divided by $2x + a$, the remainder is 36. Find the possible values of a .
2. The remainder when $\frac{1}{4}ax^3 - 6$ is divided by $2x + 3$ is equal to the remainder when $3x^3 + ax^2 - 7$ is divided by $2x - 1$. Find the value of a .
3. Determine whether $x + 3$ is a factor of $x^3 - 4x^2 - 11x + 28$.
4. The function f is defined by $f(x) = x^4 - 9x^2 + kx - 7$ where k is a constant.
 - a. Given that $x - 3$ is factor of $f(x)$, find the value of k .
 - b. Using the value of k found in part (a), show that $x + 3$ is not a factor of $f(x)$.
5. The expression $2x^3 + ax^2 + bx + 2$, where a and b are constants, had a factor of $2x + 1$ and leaves a remainder of -36 when divided by $x + 2$.
 - a. Find the value of a and of b .
 - b. Using the value of a and of b obtained in (i), factorise $2x^3 + ax^2 + bx + 2$ completely.
6. Factorise $2x^3 + x^2 - 18x - 9$ completely. Hence, solve the equation $2x^3 + x^2 - 18x - 9 = 0$.
7. The expression $ax^3 + 10x^2 + bx - 24$, where a and b are constants, is exactly divisible by $x^2 + 7x - 8$. Find the value of a and b .
8. The expressions $14x^3 + px^2 - 11x + q$ and $2x^2 + 3x - 5$ have common factors. Find the values of p and q .
9. The expressions $x^4 - x^3 + 5x^2 + x + 3$ gives a remainder of $ax + b$ when divided by $x^2 + 4$, find the value of a and b .
10. When $x^3 + kx^2 - 7x + 2$ is divided by $x - k$, the remainder is $2k$. Find the values of k , giving your answers correct to 2 decimal places where necessary.
11. Factorise each of the following expressions.
 - a. $x^3 + 27$
 - b. $x^3 - 100$
 - c. $64x^3 + y^6$
 - d. $x^6 - 125y^9$
 - e. $(2x + y)^3 + (2x - y)^3$
 - f. $2(x - y)^3 - 16y^3$



Additional Mathematics



12. Factorise each of the following expressions completely.

- a. $x^3 - 6x^2 + 11x - 6$
- b. $x^3 + 3x^2 - 24x - 80$
- c. $5x^3 + 16x^2 - x - 12$
- d. $-14x^3 - 9x^2 + 32x - 12$

13.

- a. Show that $x + 3$ is a factor of $x^3 - 3x^2 - 10x + 24$
- b. Factorise $x^3 - 3x^2 - 10x + 24$ completely.

14. The polynomial $f(x)$ is given by $f(x) = 6x^3 - 11x^2 - 50x - 8$.

- a. Find the remainder when $f(x)$ is divided by x .
- b. Show that $(x - 4)(x + 2)$ is a factor of $f(x)$.
- c. Express $f(x)$ as product of three linear factors.

15. The term containing the highest power of x in the polynomial $f(x)$ is $3x^4$. Two of the roots of the equation $f(x) = 0$ are -1 and 4 . Given that $x^2 - 3x + 6$ is a quadratic factor of $f(x)$, find

- a. An expression for $f(x)$ in descending powers of x ,
- b. The number of real roots of the equation $f(x) = 0$, justifying the answer.

The straight line L meets the curve $y = f(x)$ is divided by $2x - 3$,

- c. Given that L is not tangent to the curve, what can be deduced about L ?

16. The function f is defined as $f(x) = x^3 - mx^2 + 6x - 4$, where m is a constant.

- a. Given that $x + 2$ is a factor of $f(x)$, find the value of m .
- b. Using the value of m found in (a)
 - i. Find the remainder when $f(x)$ is divided by $2x - 3$,
 - ii. Solve the equation $f(x) = 0$.

17. The cubic polynomial $f(x)$ is such that the coefficient of x^3 is 1 and the roots of $f(x) = 0$ are 1, m and m^2 . It is given that $f(x)$ has a remainder of 7 when divided by $x - 2$.

- a. Show that $m^3 - 2m^2 - 2m - 3 = 0$.
- b. Hence, find a value of m and show that there are no real values of m that satisfy this equation.

18. The term containing the highest power of x in the polynomial $f(x)$ is $4x^4$. Given that $f(x) = 0$ has two roots -2 and 3 , and that $2x^2 + 3x + 2$ is a quadratic factor of $f(x)$,

- a. Express $f(x)$ as a polynomial in x with integer coefficients,
- b. Find the remainder when $f(x)$ is divided by $2x + 1$,
- c. Explain why $f(x) = 0$ had exactly 2 real roots.

SECONDARY 3 ENGLISH CURRICULUM

S3 English focuses on the expression of students' ideas and opinion with precision and persuasiveness. It is also crucial to build upon students' exposure to current affairs even further while focusing on using appropriate tone and style for the relevant papers.

PAPER 1: WRITING (35%)

Total: 70 marks

Duration: 1 hour 50 minutes

Section A: Editing (10)

Edit grammatical errors in short written text

Section B: Situational Writing (30)

250–350 words on a given situation which will involve viewing a visual text

Section C: Continuous Writing (30)

350–500 words on one of four topics set.

PAPER 2 COMPREHENSION (35%)

Total: 50 marks

Duration: 1 hour 50 minutes

Section A: Visual text (5)

Edit grammatical errors in short written text

Section B: Comprehension (20)

Narrative or recount text

Section C: Comprehension (25)

Non-narrative text, and write an 80-word summary of text

PAPER 3 LISTENING (10%)

Total: 30 marks

Duration: About 45mins

Section A: Listening tasks (24)

Recording played twice.

Section B: Note-taking (6)

Recording played once.

PAPER 4 ORAL (20%)

Total: 30 marks

Duration: About 20mins

Part 1: Reading Aloud (10)

Read aloud short text

Part 2: Spoken Interaction (20)

A discussion with the Examiners on a topic based on a video clip.



Comprehensive curriculum

Our centre covers all aspects of Secondary 3 English Language, including reading comprehension, writing skills, grammar, and vocabulary.



Regular assessments and feedback

Regular assessments and feedback to track progress and identify areas for improvement and ensure that each student is reaching their full potential.



Focus on skills development

Our curriculum hone skills required to excel in S3 English such as critical thinking, analytical skills, and effective communication skills.



Individualized attention

Our small class sizes and personalized approach allow assess the strengths and weaknesses of individual students and curate materials to target their weak areas.

CONTENT & LANGUAGE MASTERY

- Written passages and in-class discussion continues to cover a wide range of current affairs topics to help students develop a global perspective and build content for use in their essay.
- Students continue to attempt papers of diverse topics to apply discussed ideas.

SKILLS AND TECHNIQUES

- Students are taught to master their reasoning skills for writing mature text, while also summarizing ideas and concepts appropriately in a coherent and logical manner.
- Examination skills such as time management and concise answering techniques will be honed.



English



Passage C

1	How did the human race discover the usefulness of life? We can never know, but perhaps it went something like this. A group of humans out hunting may have been caught in a forest fire. They remembered being almost roasted to death by the flames, yet they also recalled with some pleasure the warmth offered by the flames. Until this moment, fire had been an enemy. Now it became a friend. A dead tree was dragged into the cave and lighted by means of smouldering branches from a burning tree. This turned the cave into a cozy little room. Then, one evening, maybe a dead chicken or a piece of raw meat fell into the fire. It was not rescued until it had been well roasted. Someone discovered that the meat tasted better when cooked and he then and there discarded one of the old habits which he had shared with the other animals and began to prepare his food.	5 10
2	Fire can still be our enemy, of course, but it has also proven to be an essential part of man's evolution. It allowed us to prosper and live in previously desolate areas. Fire offered new forms of protection since camps were far safer at night against attacks by larger animals, even insects, if a fire was near. As <i>Homo erectus</i> spread across Africa towards the more open highlands, fire would have been the key to keeping larger carnivores at bay. More than that, man was able to use the animal's instinct to run from fire in order to herd animals or smoke out game from forests. A much more recent use of fire, in the grand scheme of things, is in agriculture through slash-and-burn farming. Setting fire to a particular amount of land in order to plant crops there is extremely effective as it transfers the nutrients from the burnt plant matter into the soil. However, this use also causes changes to the environment. Large fires affect local climates and can damage air quality across countries.	15 20
3	The most common use of fire, even today, is in cooking. The cooking of meat makes it far easier to chew and also can eliminate bacteria and other disease-causing agents. As cooking became common practice, the need for a large jaw decreased, and over time a smaller jaw developed. The smaller jaw enabled the brain casing size to grow. This may have provided the spark for our evolution from <i>Homo erectus</i> . Our distant ancestors who first stood on two legs, to <i>Homo sapiens</i> , recognizably modern mankind.	25 30
4	The use of fire directly enabled the expansion of mankind throughout the world. In arctic and extremely cold areas, the use of fire would have kept humans warm. Earlier human beings hugged the cover of Africa's Great Rift Valley, although in order to expand out they would need the warmth of fire to cross through areas where it gets really cold. One of the most important aspects of fire is the possibility that it actually brought individuals together and laid the foundations for more advanced cultures. One group of humans huddled around a fire could have been joined by another simply to stay warm on a cold day. Such increased social integration could have been what led to speech, new methods of hunting and variety of other advances.	35



English



5	With the use of fire, new forms of tool-making were possible. Wooden tools became far more important through fire treatments as they could now be hardened into	40
---	---	----

1) Which phrase tells the reader that the 1983 fire was similar in size to the one being reported here?

_____ [1]

From Paragraph 4:

8) (a) What emotional response is common when such fire happens and why is this so?

_____ [2]

(b) Explain fully in your own words why the fire may not be as serious as some think.

_____ [2]

From Paragraph 5:

9) (a) What two suggestions does the Tasmanian Green Party make in response to the fire?

_____ [2]

(b) In what two ways was the driver's lighting of a fire disastrous?

_____ [2]

From the whole passage:

10. Put the following events in the order in which they had occurred, according to the report:

- A. The Savage River iron ore mine was evacuated. _____
- B. Tourists gave the man who started the fire a lift. _____
- C. A four-wheel drive vehicle rolled over. _____
- D. The Arthur Pieman Conservation area had a 7080,000 hectare fire. _____
- E. The driver started a fire to draw attention to himself. _____
- F. The driver received medical attention. _____

[4]

SECONDARY 3 PURE PHYSICS CURRICULUM

S3 Pure Physics focuses on deconstructing complex physics concepts and allowing the students to learn them in a well-paced, structured manner.

Secondary 3 Physics Syllabus

1. Physical Quantities, Units and Measurements
2. Kinematics
3. Dynamics
4. Mass, Weight and Density
5. Turning Effect of Forces
6. Pressure
7. Energy, Work Done and Power
8. Kinetic Model of Matter
9. Transfer of Thermal Energy
10. Temperature
11. Thermal Properties of Matter
12. General Wave Properties
13. Light
14. Electromagnetic Waves
15. Radioactivity

PAPER 1: MULTIPLE-CHOICE QUESTIONS (MCQS)

PAPER 2: STRUCTURED QUESTIONS

Section A: Short Answer Questions

Section B: Free Response Questions

S3 End-of-Year exam format, duration, and allocation of marks can vary significantly between different schools.



Organised curriculum

S3 Pure Physics curriculum is structured in a logical and progressive manner, ensuring that all essential concepts and subtopics are included, allowing students to progressively gain a strong understanding of each topic and the subject as a whole.



Comprehensive Study Materials

The tuition centre provides comprehensive study materials and resources specifically designed for S3 Pure Physics. Well-structured and organized study materials can help students to consolidate their knowledge, practice exam-style questions, and reinforce and drill key concepts.



Individualized Attention and Support

The individualized approach enables us to identify specific areas where students might face difficulties, allowing for personalized guidance and targeted practices to address these weaknesses and strengthen their conceptual understanding of Physics.



Exam Preparation and Strategies

Students acquire the skills to effectively analyse questions and answer with appropriate answering techniques and right keywords to score. Through regular mock exams and targeted feedback, students gain confidence, improve their exam performance, and develop effective study and revision strategies.

CONTENT & LANGUAGE MASTERY

- S3 Pure Physics explores topics such as Kinematics, Pressure, Thermal Properties of Matter, General Wave Properties and Electromagnetic Spectrum in depth.

SKILLS AND TECHNIQUES

- Students are taught to develop an understanding of the role of Physics in scientific issues and relevant applications of Physics, which is beneficial to prepare them for their practical and theory papers.



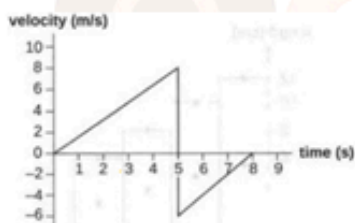
Pure Physics



19. An object at a certain height is dropped vertically downwards from rest. What is the approximate ratio of distance fallen in the first 2 seconds and in the first 6 seconds?
Take g as 10 m/s^2 .
- A. 1:3
B. 3:1
C. 6:1
D. 1:9
20. A man throws a stone vertically upwards to the air with a velocity of 8.0 m/s . What is the velocity of the stone at the instant when it hits an object at a height of 3.0 metre above the man?
Take g as 10 m/s^2 .
- A. 1.0 m/s^2
B. 1.5 m/s
C. 2.0 m/s
D. 2.5 m/s

SECTION B: SHORT ANSWER QUESTIONS

1. A stone is dropped vertically from a roof of a house onto the ground below. The graph shows the velocity against time for the stone.



- (a) What is the acceleration of the ball for the first 5s? [2]
- (b) At what time does the ball hit the ground? [2]
- (c) Determine the distance travelled by the ball when it rebounds. [2]



Pure Physics



- 2) The table shows the total distance taken by a car travelling at different speeds to come to a complete stop from the time the driver first sees a danger on the road.

Speed (m/s)	Reacting distance (m)	Braking distance (m)
10	8.0	8.5
20	16.0	40.0
30	?	68.5

The reacting distance is the distance travelled by the car when the driver first notice a danger and before the brakes are applied. When the driver is reacting, the car continues to move at a constant speed. When the brakes are applied, the car slows down at a uniform rate.

- (a) Using the information from the table, suggest the reacting distance when the speed of the car is 30 m/s.

[1]

- (b) Calculate the time taken for the driver to apply the brakes when he first sees a danger. [1]

- (c) (i) Sketch and label fully the speed-time graph of a car when it travels at a speed of 20 m/s and the brakes are applied for 4 seconds for the car to stop completely. [2]

- (ii) By using your graph in b(i), determine the speed of the car 2 s after the driver first notices a danger. Show your answer in the graph clearly.

[1]

- (d) Answer both questions c(i) and c(ii) on the same graph provided below.

- (i) Sketch the graph of the speed of a car against its reacting distance. Label the graph X.

- (ii) Sketch the graph of the speed of a car against its braking distance. Label the graph Y.



SECONDARY 3 PURE CHEMISTRY CURRICULUM

S3 Pure Chemistry focuses on building students' Chemistry knowledge as a cumulative curriculum. A strong foundation is crucial for their upper level Chemistry.

Secondary 3 Chemistry Syllabus

1. Experimental Techniques
2. Kinetic Particle Theory
3. Atomic Structure
4. Method of Purification & Separation
5. Chemical Bonding & Structure of Matter
6. Acids and Bases
7. Preparation of Salt
8. Formulae, Stoichiometry & Mole Concepts
9. Qualitative Analysis (QA)
10. The Periodic Table and Group Trends
11. Redox Reaction

PAPER 1: MULTIPLE-CHOICE QUESTIONS (MCQS)

PAPER 2: STRUCTURED QUESTIONS

Section A: Short Answer Questions

Section B: Free Response Questions

S3 End-of-Year exam format, duration, and allocation of marks can vary significantly between different schools.



Organised curriculum

Our curriculum is organised to cover the topics of S3 Pure Chemistry. We have structured the curriculum in a logical and progressive manner, ensuring that all essential concepts and subtopics are included, allowing students to develop a strong understanding of the subject.



Comprehensive Study Materials

The tuition centre provides comprehensive study materials and resources specifically designed for S3 Pure Chemistry. Well-structured and organized study materials can aid students to consolidate their knowledge, practice exam-style questions, and reinforce their understanding of key concepts.



Individualized Attention and Support

The individualized approach enables us to identify specific areas where students might face difficulties, allowing for personalized guidance and targeted practice to address these challenges and enhance their proficiency in Chemistry.



Exam Preparation and Strategies

Students acquire the skills to effectively approach questions with proper question analysis, identifying keywords, and appropriate answering techniques. Through regular mock exams and targeted feedback, students gain confidence, improve their exam performance, and develop effective study and revision strategies.

CONTENT & LANGUAGE MASTERY

- S3 Pure Chem reinforces students' foundation with topics such as Atomic Structure and Stoichiometry that is helpful for their theory and practical papers.

SKILLS AND TECHNIQUES

- Students will be coached and guided in problem solving strategies and answering techniques on a wide range of exam questions.
- Through these repeated practices, students will explore the multiple ways of solving so students can reapply into the various question types.



Pure Chemistry



B1 (e) shows a reaction that produces a gas that causes acid rain. [1]

B2 Lead compounds are extensively used to provide the colour in paints and pigments.
'White lead', used for over 2000 years as a white pigment, is based on lead carbonate.
Analysis shows that lead carbonate has the following percentage composition by mass:

Pb: 77.5% C: 4.5% O: 18.0%

'Red lead', is the pigment in paint used as a protective coating for structural iron and steel. It is based on lead (IV) oxide, Pb_3O_4 , a scarlet powder formed by combining lead (II) oxide powder with oxygen.

(a) Calculate the empirical formula of lead carbonate. [3]

(b) Write a chemical equation for the formation of the 'scarlet powder'.
State symbols are not required. [1]



Pure Chemistry



B2 (c) Calculate the mass of Pb_3O_4 that could be formed from 66.9g of PbO . [2]

B3 Rubidium, Rb, is a highly reactive element in Group I of the Periodic Table.

The table below shows some information about two isotopes of rubidium.

Atomic symbol of isotopes	Number of protons	Number of electrons	Number of neutrons	Relative abundance
$^{85}_{37}\text{Rb}$	37			72.2
	37		50	27.8

(a) Complete the table above. [2]

(b) A sample of rubidium has the isotopic composition by mass shown in the table above.

Calculate the relative atomic mass of rubidium based on the data given in the table. Give your answer to 3 significant figures. [2]

SECONDARY 3 COMBINED SCIENCE (Physics/Chemistry) CURRICULUM

S3 Combined P/C focuses on providing a balanced revision for both Physics and Chemistry as catered to the Combined P/C syllabus.

Secondary 3 Combined Physics Syllabus

1. Physical Quantities, Units and Measurements
2. Kinematics
3. Dynamics
4. Mass, Weight and Density
5. Turning Effect of Forces
6. Pressure
7. Energy, Work Done and Power
8. Kinetic Model of Matter
9. Transfer of Thermal Energy
10. Thermal Properties of Matter
11. General Wave Properties
12. Light
13. Electromagnetic Waves
14. Radioactivity

Exam Format S3 Combined Physics:

Paper 1: MCQs (20marks)

Duration: 1 hour

20 questions

PAPER 2: Structured Questions (65 marks)

Duration: 1 hour 15 mins

Section A: Short Answer Questions (45 marks)

7-9 questions

Section B: Free Response Questions (20 marks)

2-3 questions

Secondary 3 Combined Chemistry Syllabus

1. Experimental Techniques
2. Kinetic Particle Theory
3. Atomic Structure
4. Method of Purification & Separation
5. Chemical Bonding & Structure of Matter
6. Acids and Bases
7. Preparation of Salt
8. Formulae, Stoichiometry & Mole Concepts
9. Qualitative Analysis (QA)
10. The Periodic Table and Group Trends
11. Salt
12. Redox Reaction

Exam Format S3 Combined Chemistry:

Paper 1: MCQs (20marks)

Duration: 1 hour

20 questions

PAPER 2: Structured Questions (65 marks)

Duration: 1 hour 15 mins

Section A: Short Answer Questions (45 marks)

7-9 questions

Section B: Free Response Questions (20 marks)

2-3 questions



Comprehensive Study Materials

Comprehensive and quality study resources thoughtfully crafted for S3 Combined P/C to help students to consolidate their knowledge to build strong foundation. Well crafted exam-style questions can drill their understanding of key concepts.



Organised curriculum

Our curriculum covers the topics of S3 Combined P/C following MOE curriculum, structured in a logical and progressive manner, ensuring that all essential concepts and subtopics are included, allowing students to develop a strong understanding of the physics and chemistry.



Combined Science (Physics/ Chemistry)



(ii) At points B and C, suggest the direction of force on the particle

(iii) What rule or law did you use to determine your answers (i) and (ii)?

[5]

- (b) Alnico alloy is magnetic at low temperature, but loses its magnetic properties when the temperature rises above 120°C . The apparatus shown in the figure below uses Alnico alloy and a permanent magnet as part of a fire alarm. Explain how the fire alarm works. You may assume that the fire temperature exceeds 120°C .

[4]

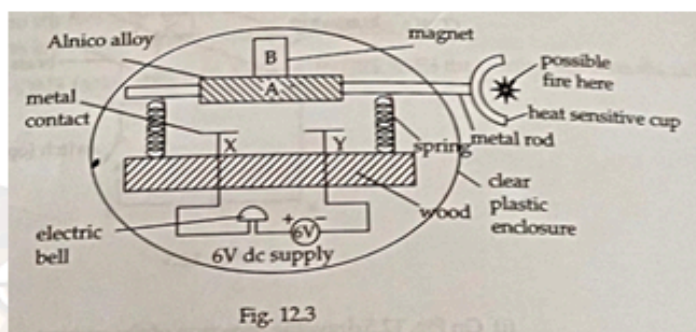


Fig. 12.3

- (a) The figure below represents a straight wire suspended between the poles of two magnets of the same magnetic strength.

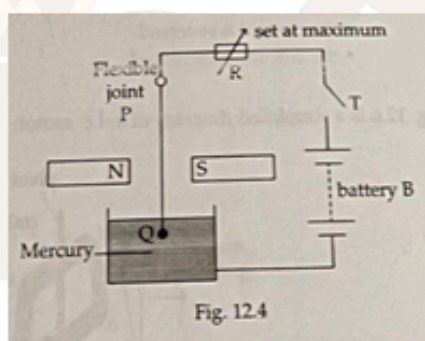


Fig. 12.4

(i) Indicate the direction of the current I in the wire when the switch T is closed. [1]

(ii) Describe and explain what you would expect to see in wire PQ when the switch is closed. [2]

(use keywords like: up/down/left/right/out of paper/into paper)

(iii) If variable resistance R has its resistance lowered, would you expect the effect you described to be increased or decreased? Explain your answer. [2]



Combined Science (Physics/ Chemistry)



12. A wave crosses from deep to shallow water. Its wavelength changed from 3.0m to 1.5m. By how much did the speed and frequency change?

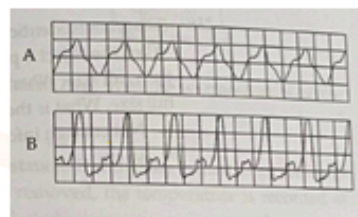
	Change in speed	Change in frequency
A.	2x	No change
B.	1/2x	No change
C.	1/4x	1/2x
D.	No change	2x

13. The sounds produced by two musical instruments are directed towards a microphone connected to an oscilloscope (cro). The waveforms produced on the screen are shown. The waveforms A and B show that the sounds produced have one or more different properties.

What is (are) the property (ies)?

- A. Frequency only
- B. Frequency and timbre
- C. Timbre (quality) only
- D. Wavelength only

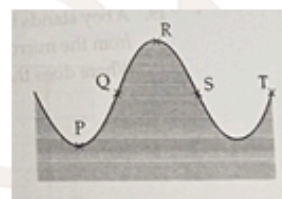
[]



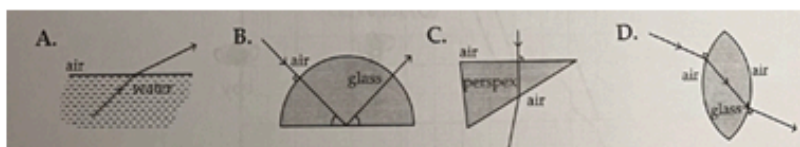
14. The diagram shows waves travelling on the sea. Which two points always move in the same direction and with the same speed up/down?

- A. P, R
- B. S, T
- C. Q, S
- D. Q, T

[]



15. In which of the diagrams is the path of the light ray not correct?



[]

SECONDARY 3 CHINESE CURRICULUM

S3 Chinese program emphasizes increased difficulty of Chinese papers, including developing students' proficiency in comprehension questions, essay writing, and oral communication. S3 Chinese program aims to provide students with the necessary foundation to tackle the demanding requirements of the O Level Examination. The program strives to cultivate students' language proficiency and equip them with the skills and knowledge needed to excel academically in Chinese.

Paper 1: Writing

Section 1: Functional Writing (20 marks)

Typically >150 words, 2 choose 1:

- Personal email
- Formal email

Section 2: Essay Writing (40 marks)

Typically >300 words, 3 choose 1:

- Narrative essay
- Expository essay
- Argumentative essay
- Situational essay

**Note: Word count and marks allocation may vary depending on school*

Paper 2:

**Note: Exact format may vary depending on the school*

Examination format may include components such as:

- Fill in the blanks
- Sentence construction
- Complete the sentence/word
- Cloze passage
- Comprehension MCQ
- Comprehension open ended



Comprehensive Curriculum:

S3 Chinese program is structured to encompass various components such as comprehension, writing, listening, and oral skills. The program aims to improve students' proficiency in reading comprehension, written expression, and oral communication by focusing on a wide range of aspects.



Experienced Teachers

"Our team of knowledgeable tutors, who have extensive expertise in Chinese language and a deep understanding of Chinese culture and history, will guide students in acquiring the necessary techniques and provide targeted practice to support their success in Chinese.



Comprehensive Materials

Effective writing techniques and comprehension exercises are crafted to improve students' composition and comprehension answering abilities. Our materials also consolidates textbook vocabulary and increasing commonly used vocabulary and idioms, allowing students to improve their overall Chinese language proficiency.



Exam-Focused Approach

Our curriculum is designed to help students prepare for their school exams and beyond. We provide students with exam-focused materials and resources that are aligned with the latest MOE syllabus. Our teachers work closely with students to identify their weaker areas and provide them with tailored support.

CONTENT & LANGUAGE MASTERY

- In-class discussion are held to expose students to a wide range of current affairs topics to help students develop a global perspective, build their Chinese vocabulary and build content for use in their essay.

SKILLS AND TECHNIQUES

- Numerous practice questions are given to build students' familiarity in the answering techniques for the different question types in their composition and comprehension papers.



Chinese



中学普通华文课程

语文理解与运用

一、综合填空（每题1分，共10分）

根据短文的内容和上下文的意思，选出括号中最适当的词语，然后把代表它的数字写在下面的格子里。

一个年轻的妈妈牵着一个一岁大的小男孩到公园游玩。来到广场，小男孩一看到一个很高的阶梯，马上就Q1.（1.摇摆 2.摊开 3.挣脱 4.逃避）妈妈的手，想要自己爬上去。妈妈在一旁看着，没有要抱他上去的意思。

当小男孩爬了两个台阶时，就感觉到有点高。他回头看着妈妈，想要妈妈抱他上去。但是，妈妈没有移动身子，只是以充满Q2.（1.慈爱 2.善良 3.喜悦 4.骄傲）和鼓励的眼神看着小男孩。于是，小男孩Q3.（1.否定 2.放弃 3.丢掉 4.发觉）了让妈妈抱的想法，抬起头，继续小心地向上爬。

可想而知，小男孩爬得很辛苦，累得大汗淋漓，满脸通红。他的双手脏兮兮（xī xī）的，可爱的新衣也粘到了泥土，但他最终爬上了阶梯的最高点。妈妈这时才走上前，拍拍儿子身上的泥土，并且在他那通红的小脸蛋上亲了一下。

后来，小男孩长大了，他就是美国第十六Q4.（1.职 2.胎 3.期 4.届）总统林肯。

林肯的家境极为Q5.（1.富裕 2.不足 3.贫穷 4.破损）。虽无法接受正规教育，但他从小就养成了热爱知识、不Q6.（1.低头 2.畏惧 3.放弃 4.退后）困难的性格。他买不起纸和笔，就用木炭在木板上写字，或用小木棍在地上练习写字。他抓紧一切看书学习的时间，练习演讲。当其他小朋友还在Q7.（1.紧握 2.规划 3.逍遥 4.浪费）自在时，林肯已在为理想和家计努力着。他后来当上了律师，并从29岁起，开始竞选议员和总统，前后Q8.（1.尝试 2.报读 3.现身 4.选择）了11次，失败过9次。在他51岁那年，他终于成为总统，并



Chinese



中学普通华文课程

29岁起，开始竞选议员和总统，前后Q8. (1.尝试 2.报读 3.现身 4.选择)了11次，失败过9次。在他51岁那年，他终于成为总统，并取得了Q9. (1.灿烂 2.光荣 3.骄傲 4.辉煌)的政绩，是政治界的Q10. (1.参赛者 2.佼佼者 3.执行者 4.失败者)。

实际上，母亲南希在林肯9岁那年就不幸病逝。然而，她在世时用坚强而伟大的母爱抚养了林肯，使他勇敢而坚定地走向未来，并取得如此成就。

Q1.	Q2.	Q3.	Q4.	Q5.
Q6.	Q7.	Q8.	Q9.	Q10.

(二) 阅读理解一(每题2分，共20分)

根据短文的内容，选出各题最适当的答案，然后把代表它的数字写在括号里。

A组(Q11)

和新加坡一样，日本饮食业也面临着人手不足的问题，但日本仍有许多饮食集团到新加坡拓展业务，设立分店。

日本饮食集团在本地开分店，如何应付人手不足的问题呢？



负责人说，集团在日本营业数十年，早已累积了一套提高员工生产力、减少过度依赖人力的方法。另外，为了减低人力开销，分店还从日本进口机器。

Q11 这篇短文要传达的主要信息是什么？ ()

- (1) 宣传日本饮食业很蓬勃。
- (2) 强调饮食业员工供不应求。
- (3) 鼓励人们向海外拓展饮食业。
- (4) 提醒饮食业经营者要向日本学习。



Chinese



中学普通华文课程

B组 (Q12-Q13)

我曾经看见一个老人在寒风中渡过一条河。老人在河边把自己脱个精光，然后顶着衣服一步一步走下水去。我喊住老人，我说上游有木桥，老人说晓得；我说下游有渡口，老人也说晓得。但老人没有回来，他一步一步离我远去，在寒风中走向对岸。

在老人之前和老人之后，有无数年轻人也要过河，但在河边他们停下了。他们问我附近有桥吗，我说上游10公里的地方有木桥，下游10公里的地方有渡口。年轻人听了，立即离开河边，或上或下绕道而去。有一个人，或许嫌路太远，他没有走，他脱了鞋，一步步走进水中，但当冰凉的河水没过膝盖时，那人停住了。然后，又一步一步走上岸，穿好鞋离开河边也绕道而去。

生命经不起消耗，那些年轻人，他们在绕道10次、20次，或者100次、1000次之后，他们会发现自己也老了。

我无意劝人越水过河，但时间，不管什么人都应该珍惜。

Q12 文中的老人和年轻人的不同表现主要说明_____。()

- (1) 老人顽固而年轻人灵活
- (2) 老人踏实而年轻人冲动
- (3) 老人珍惜而年轻人浪费
- (4) 老人和年轻人各有千秋

Q13 那些年轻人多次绕道的结果会发现_____。()

- (1) 河水不浅
- (2) 路途不近
- (3) 赚钱不易
- (4) 岁月无情

C组 (Q14-Q16)

新加坡40多家餐饮业者参与了“以客为先服务计划”，以实际行动为客户提供更好的服务。

参与这项计划的餐饮业者，占了市场的四分之一。这些公司

Our Locations

Admiralty

736 Woodlands Circle
#01-513, S730736
(5 mins walk from
Woodlands Mart)

 8940 7170



Choa Chu Kang

223 Choa Chu Kang Central
#01-237B, S680223
(5mins walk from CCK MRT
3mins walk from Southview LRT)

 9797 3786



Marsiling

306 Woodlands St 31
#02-35, S730306
(5 mins walk from
Marsiling MRT)

 9062 5285





Our Locations

Choa Chu Kang

223 Choa Chu Kang Central
#01-237B, S680223

☎ 9797 3786

Marsiling

306 Woodlands St 31
#02-35, S730306

☎ 9062 5285

Admiralty

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