



SINGAPORE MATH GLOBAL ASSESSMENTS

**Info Pack 2021
International**

Table of Contents

| | |
|-------------------------------------------------------------------------------------------------------|-----------|
| About SINGA Math | 1 |
| Objectives | 2 |
| Assessment Details | 3 |
| Syllabus | 4 |
| Sample Questions | 5 |
| Awards | 9 |
| Scholastic Trust Singapore (STS) and Young Leaders Achievers Leadership Academy (YALA) | 10 |
| Registration Information | 11 |



About SINGA Math

Singapore Math is renowned worldwide. But to stay at the top, it needs constant energy and challenge – so SINGA MATH has been born. Welcome to SINGA MATH, where we share the best practices in mathematics learning and students gauge how good they are at math.

This is a new international Singapore Mathematics assessment for grades 1 to 11/12 written by top Singapore Ministry of Education (MOE) teachers that will be offered to every country in the world. Singapore Math is taught in over 70 countries globally and SINGA MATH will be the standard to measure students and inform parents and teachers with valuable formative and summative assessment data for them to improve teaching and learning.

We have partnered Scholastic Trust Singapore Teachers' Institute (STSTI) to bring you SINGA MATH as well as training for teachers on how to use Formative and Summative Assessment data to diagnose students' misconceptions about mathematics and plan lessons to correct these misconceptions.



Dr Yeap Ban Har

- Collaborates with the Curriculum Planning and Development Divisions of the Ministry of Education in Singapore regularly.
- Principal of the Marshall Cavendish Institute.
- Director of Curriculum and Professional Development at Pathlight School, an autism-oriented K -10 school in Singapore.
- Advisory board of the SEED Institute and several schools in Singapore and Asia.



Dr Yeo Boon Wooi, Joseph

- Mathematics professor at Singapore's National Institute of Education.
- Developed the viral math problem "Cheryl's Birthday". Recipient of the prestigious Nanyang Excellence in Teaching Award in 2013.
- First author of the New Syllabus Mathematics used in secondary schools marketed worldwide.
- Specializes in training in-service math teachers for Singapore's Ministry of Education.

Objectives



We are a team of dedicated mathematics educators who want to help students and teachers from all over the world to improve in math education. Singapore started with a very poor education base after independence from the British in 1965 and by 1980, we were at the rock bottom of world education rankings.

The "Singapore method" was first developed by a team of teachers in Singapore in the 1980s, who were given the task of creating high-quality teaching materials by the ministry of education. They studied the latest behavioural science research as well as travelled to schools in other countries, including Canada and Japan, to compare the effectiveness of different teaching methods. Aiming to move away from simple rote-learning and to focus instead on teaching children how to problem solve, the textbooks the group produced were influenced by educational psychologists such as the American Jerome Bruner, who posited that people learn in three stages: by using real objects, then pictures, and then through symbols. That theory contributed to Singapore's strong emphasis on modelling mathematical problems with visual aids; using coloured blocks to represent fractions or ratios, for example.

We hope to share the best of Singapore education with the world. In educating our students in Singapore, we seek to achieve our Desired Outcomes of Education so that our students are future-ready, have a strong sense of national identity, and are equipped to contribute in a globalized world. We aspire to bring out the best in our students so that they are empowered to live life to the fullest, contribute to, and care for their community and nation. We also aim to enable our students to develop their interests to pursue their passions and fulfil their aspirations.

Assessment Details

Test Format

SINGA MATH is open to all students from grades 1 to 10/11 (Primary 1 to Secondary 4):

This Online assessment is to measure the student's math foundation at the year before their current level, that is Primary 2/Grade 2 is tested on the Primary 1/Grade 1 syllabus. Since this is an online assessment, we will just require a laptop or tablet with camera, so that contestant can share screen.

Primary 1-Primary 6

| Level | Duration | Number of Questions | Question Breakdown | Total Marks |
|-------|---------------------------------------------|---------------------|---------------------------------------------------------------------------|-------------|
| P1 | 1h | 25 | Q1-Q10 (1 mark each) | 50 |
| | | | Q11-Q15 (2 marks each) | |
| | | | Q15-Q25 (3 marks each) | |
| P2 | 1h | 25 | Q1-Q10 (1 mark each) | 50 |
| | | | Q11-Q15 (2 marks each) | |
| | | | Q15-Q25 (3 marks each) | |
| P3 | 1h 30 min | 45 | Q1-Q40 (2 marks each) | 100 |
| | | | Q41-Q45 (4 marks each) | |
| P4 | 1h 30 min | 45 | Q1-Q40 (2 marks each) | 100 |
| | | | Q41-Q45 (4 marks each) | |
| P5 | Paper 1-- 45 min (No calculator allowed) | 20 | Q1-Q20 (2 marks each) | 100 |
| | Paper 2-- 1h 30 min (Calculator allowed) | 17 | Q1-Q10 (3 marks each) Q11-Q15 (4 marks each) Q16-Q17 (5 marks each) | |
| | Paper 1-- 45 min (No calculator allowed) | 20 | Q1-Q20 (2 marks each) | |
| P6 | Paper 2-- 1h 30 min (Calculator allowed) | 17 | Q1-Q10 (3 marks each) | 100 |
| | | | Q11-Q15 (4 marks each) | |
| | | | Q16-Q17 (5 marks each) | |

Secondary 1-Secondary 4

| Level | Duration | Number of Questions | Question Breakdown | Total Marks |
|-------|----------|---------------------|------------------------|-------------|
| Sec 1 | 2h | 40 Questions | Q1-Q20 (2 marks each) | 100 |
| | | | Q21-Q40 (3 marks each) | |
| Sec 2 | 2h | 40 Questions | Q1-Q20 (2 marks each) | 100 |
| | | | Q21-Q40 (3 marks each) | |
| Sec 3 | 2h 15Min | 45 Questions | Q1-Q10 (1 mark each) | 100 |
| | | | Q11-Q30 (2 marks each) | |
| | | | Q31-Q40 (3 marks each) | |
| Sec 4 | 2h 15Min | 45 Questions | Q41-Q45 (4 marks each) | 100 |
| | | | Q1-Q10 (1 mark each) | |
| | | | Q11-Q30 (2 marks each) | |
| | | | Q31-Q40 (3 marks each) | |

Syllabus

Lower Primary Level/Grades 1-4

PRIMARY 1/GRADE 1

Numbers up to 20
Time
Length
Shapes
Pictorial graph

PRIMARY 2/GRADE 2

Numbers up to 100
Addition & subtraction within 100
Money
Time
Length
2D Shape
Picture graph

PRIMARY 3/GRADE 3

Numbers up to 1000
Addition & Subtraction within 1000
Multiplication and Division of 2,3,4,5 & 10
Length
Mass
Volume
Money
Fractions
Time
Picture Graphs 1. 2-D & 3-D Shapes
Heuristics

PRIMARY 3-4/GRADES 3-4

Numbers up to 100 000
Factors and Multiples
4 Operations of Whole Numbers within 100 000
Fractions
Decimals
Time
Area and Perimeter
Angles
Properties of Rectangles and Squares
Line Symmetry
Tables, Bar Graphs & Line Graphs
Money
Length, Mass and Volume
Parallel and Perpendicular Lines
Heuristics

Upper Primary Level to Secondary Level/Grades 5-11

PRIMARY 5-6/GRADES 5-6

Numbers up to 10 million
4 Operations of Whole Numbers within 10 million
4 Operations of Fractions
4 Operations of Decimals
Ratio
Percentage
Area and Perimeter of Composite Figures
Angles
Properties of Triangles & Quadrilaterals
Volume of Cube and Cuboid
Rate and Speed
Average
Algebra
Pie Graphs
Nets Solid Figures
Heuristics

SECONDARY 1/2 / GRADES 7-8

4 Operations of Numbers
Ratio & Proportion
Percentage
Rate & Speed
Algebraic Expressions & Formulae
Functions & Graphs
Equations and Inequalities
Angles, Triangles and Polygons
Congruence and Similarity
Pythagoras' Theorem
Mensuration
Data Analysis

SECONDARY 3/4 / GRADES 9-10/11

Numbers and Number Patterns
Angles and Polygons
Mensuration, Arc Length and Area of Sector
Equations, Functions and Polynomials
Inequalities
Indices and Surds
Coordinate Geometry and Circles
Pythagoras' Theorem, Further Trigonometry and Applications of Trigonometry
Trigonometric Functions, Identities and Equations
Congruence and Similarity, Area and Volume of Similar Figures and Solids
Geometry and Properties of Circles
Set Language and Notation
Probability
Statistical Data Analysis
Vectors in Two Dimensions
Binomial Theorem
Matrices

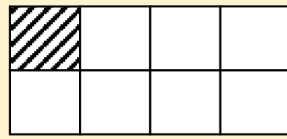
SINGA SAMPLE QUESTIONS

DIVISION JUNIOR (GRADE 1 & 2)

Q1

In the figure below, one part of it is already shaded. How many more parts of the figure must be shaded so that $\frac{3}{8}$ of it is unshaded?

- 1) 5
- 2) 2
- 3) 3
- 4) 4

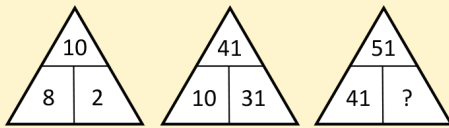


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DIVISION JUNIOR (GRADE 1 & 2)

Q2

Look at the number pattern. What is the missing number?

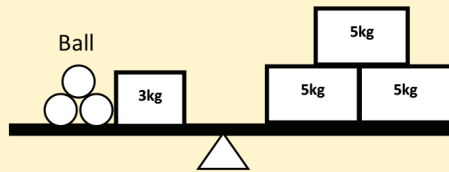


Answer: _____

DIVISION JUNIOR (GRADE 1 & 2)

Q1

Find the mass of one ball. (3 marks)



Answer: _____ kg

Q2

Ali bought some sweets. If he packs them equally into 4 jars, he will have 3 sweets left. If he packs them equally into 5 jars, he will have 1 sweet left. What is the least possible number sweets Ali bought? (4 marks)

Answer: _____ sweets

Q3

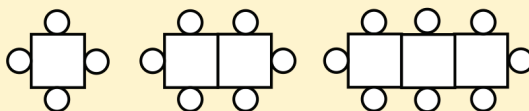
Anthony and Alvin had the same amount of money. Alvin spent all his money on a story book while Anthony bought a T-shirt for \$12 and had \$3 left. How much did the two boys have altogether at first? (5 marks)

Answer: \$ _____

DIVISION JUNIOR (GRADE 1 & 2)

Q1

Study the pattern below. How many circles will there be in pattern 5?



Pattern 1

Pattern 2

Pattern 3

Answer: _____ circles

SINGA SAMPLE QUESTIONS

DIVISION MIDDLE (GRADE 3 & 4)

Q1

$$\star \times \star = 16,$$

$$48 \div \star = \bullet$$

Find the value of \bullet .

1) 12

2) 6

3) 3

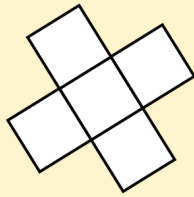
4) 4

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DIVISION MIDDLE (GRADE 3 & 4)

Q2

The figure below is made up of 5 identical squares. The perimeter of the figure is 96cm. What is the area of each square?

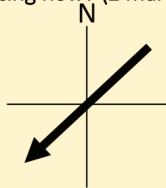


Answer: _____ cm²

DIVISION MIDDLE (GRADE 3 & 4)

Q1

The arrow shows the direction Mr Sofian is facing. He turns 135° anti-clockwise and then 45° clockwise. In which direction is he facing now? (2 marks)



Answer: _____

Q2

There are some birds in three trees. 3 birds flew from the first tree to the second tree. 2 birds flew from the second tree to the third tree. After this, there were 5 birds in each tree. How many birds were there in each tree at first? (3 marks)

Answer: _____ birds

Q3

A tank, a pail and a bottle can hold a total 52 litres of water. The pail can hold 8 litres more water than the bottle. The tank can hold 4 times as much water as the pail. How much water can the bottle hold? (5 marks)

Answer: _____ litres

DIVISION MIDDLE (GRADE 3 & 4)

Q1

The cost of 1 storybook and 3 similar pens is \$7. The cost of 3 storybooks, 9 pens and 2 files is \$25.40. What is the cost of a file?

Answer: \$ _____

SINGA SAMPLE QUESTIONS

DIVISION INTERMEDIATE (GRADE 5 & 6)

Q1

The table below shows the marks obtained by five students for their Mathematics test. How many student(s) obtained more than the average mark of the group?

| Name of students | Marks obtained |
|------------------|----------------|
| Ashykin | 35 |
| Benson | 31 |
| Charles | 42 |
| Devi | 45 |
| Eng Hui | 27 |

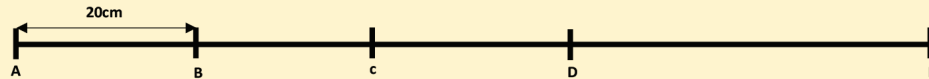
- 1) 1
- 2) 2
- 3) 3
- 4) 4

()

DIVISION INTERMEDIATE (GRADE 5 & 6)

Q2

In the figure below, AB is 20cm. B is the midpoint of AC, C is the midpoint of BD and D is the midpoint of BE. What is the length of AE?

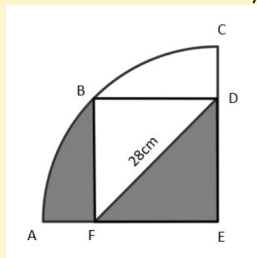


Answer: _____cm

DIVISION INTERMEDIATE (GRADE 5 & 6)

Q1

The figure below is formed by a square BDEF and a quadrant. Given that DF = 28 cm, find the total area of the shaded parts. (Take $\pi = \frac{22}{7}$) (3 marks)



Answer: _____cm²

Q2

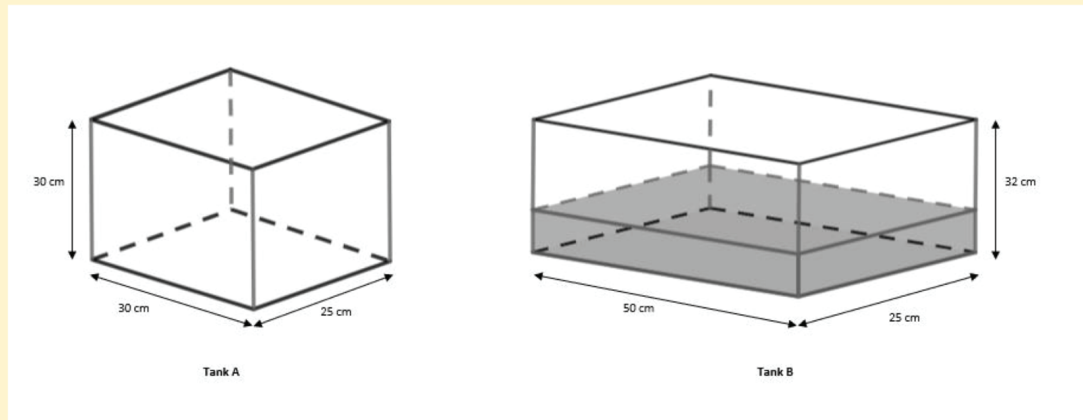
Tim had \$1060 more than Cory. After Tim gave $\frac{4}{9}$ of his money to Cory, they each had the same amount of money. How much money did Cory have at first? (4 marks)

Answer: \$_____

SINGA SAMPLE QUESTIONS

Q3

Two rectangular tanks are shown below. At first tank A was empty and $\frac{1}{4}$ of Tank B was filled with water. Both taps were turned on at the same time and water from both taps flowed at the same rate of 1.5 litres per minute. How long did it take for the height of water to be the same in both tanks? (1 litres = 1000cm³) (5 marks)



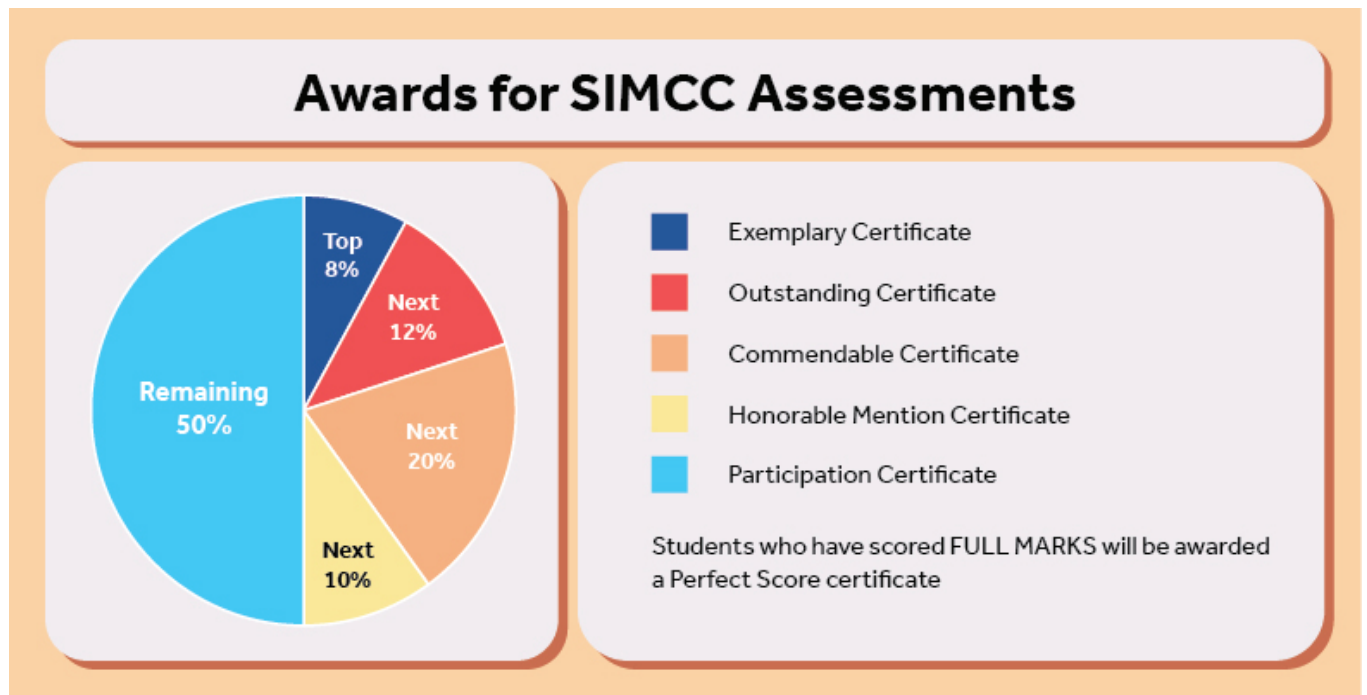
DIVISION INTERMEDIATE (GRADE 5 & 6)

Q1

Henry bought some chocolates and gave half of them to Wen Jie. Wen Jie bought some sweets and gave half of them to Henry. Henry ate 15 sweets and Wen Jie ate 18 chocolates. After that, the number of sweets and chocolates Henry had were in the ratio 1:7 and the number of sweets and chocolates Wen Jie had were in the ratio of 1:4. How many sweets did Wen Jie buy?

Answer: _____ sweets

Awards



The top 50% of the participants will receive an award certificate. All winners are invited to compete at **SINGA MATH GLOBAL FINALS 2021 to be held simultaneously worldwide on September 11, 2021** in every country that offered SINGA MATH. Students must register with their school or SIMCC country organizer that will be posted on our www.SINGAMATH.com.

Scholastic Trust (Singapore) Limited (STS) and Young Achievers Leadership Academy (YALA)



STS is a non-profit foundation that set up the International Junior Honor Society (IJHS) to recognize outstanding primary to junior college students who have won Gold awards in English, Mathematics, Science, Computational Thinking, Informatics and Digital Technologies.

Students are exclusively invited by STS and SIMCC to join this society to pursue excellence and IJHS provides a suite of services to help them succeed. Once inducted, STS supported by SIMCC will enhance their abilities in leadership, creativity, and character building through the Young Achievers Leadership Academy (YALA) and community service activities.

The Young Achievers Leadership Academy (YALA) is a 5 days 4 nights leadership and personal development workshop conducted by Scholastic Trust (Singapore) Limited (STS).

YALA is an academic motivational camp for primary 4 to junior college 2 (Grades 4 to 12) students specially designed to cater to top students in their pursuit to reach their highest academic goals, such as cracking the admission process to the top schools of the country.

To get inducted into IJHS, students must have received at least 2 Gold medals within the academic year (August 1 to July 30) in our competitions (SASMO, AMO, DOKA, VTMO, IJMO, SIMOC, DrCT, VANDA, or any one of ICAS English, Mathematics, Science, Writing or Digital Technologies with High Distinction*) Students who have received 1 International Local Gold medal and at least an Individual Silver medal in an International Global Competition (SIMOC, STEAM AHEAD) will also be inducted.

Starting in 2020, SIMCC accepts University of New South Wales Global (UNSWG) International Competitions and Assessments for Schools (ICAS) High Distinction award in English, Mathematics, Science, Writing or Digital Technologies as a equivalent to a SIMCC International Local Gold Award to satisfy the entry criteria to IJHS. We will accept ONE ICAS award for entry into IJHS only for the 9 countries and territories where SIMCC is managing the UNSWG ICAS competitions in Brunei, Cambodia, China, Hong Kong, Macau, Maldives, Thailand, Singapore, and Vietnam.

YALA and other scholarships are awarded to students with the highest points - from international local SIMCC competitions based on Perfect Score and Gold awards and international Global SIMCC competitions based on Individual Perfect Score, Gold, Silver and Overall Champion Individual awards. University scholarships will also require students to meet the university entrance requirements as well as receive a Gold award and above for a specific competition, such as AMO Gold award is required in order to win the Southern Illinois University (SIU) 4-year STEM undergraduate scholarship.

Registration and Assessment Information

Assessment



Assessment timing to be confirmed after registration



**Online-only
assessment**



**Registration
Fees**

Registration

Candidates outside of Singapore

Kindly check with your country partner for registration information.



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E-certificates are awarded to all students according to their level of achievement:

| | |
|--------------------------------|---------------|
| Perfect Score | 100% score |
| Exemplary Certificate | Top 8% |
| Outstanding Certificate | Next 12% |
| Commendable Certificate | Next 20% |
| Honourable Mention Certificate | Next 10% |
| Participation Certificate | Remaining 50% |

The top 50% of the participants will receive an award certificate. The top 40% of winners will be invited to compete at the SINGA MATH Global Finals, which will be held online worldwide on September 11, 2021, similar to how we have organized SIMOC 2020 and STEAM AHEAD 2020 online.

The entry fee for participants enrolled through schools per entry is as follows:

SINGA Math - _____ (price)

SINGA Math will be held online on _____

Please return this reply slip before _____. Thank you for supporting SINGA MATH.

Signature of Parent/ Guardian

Name of Parent/ Guardian

Date

*This parent letter template can be used by schools to photocopy and send home to parents. A soft copy can be obtained by requesting a copy of the "Parent Letter" via _____.

SINGA (School/Testing Centre)*

*Please delete accordingly