# MATHEMATICS

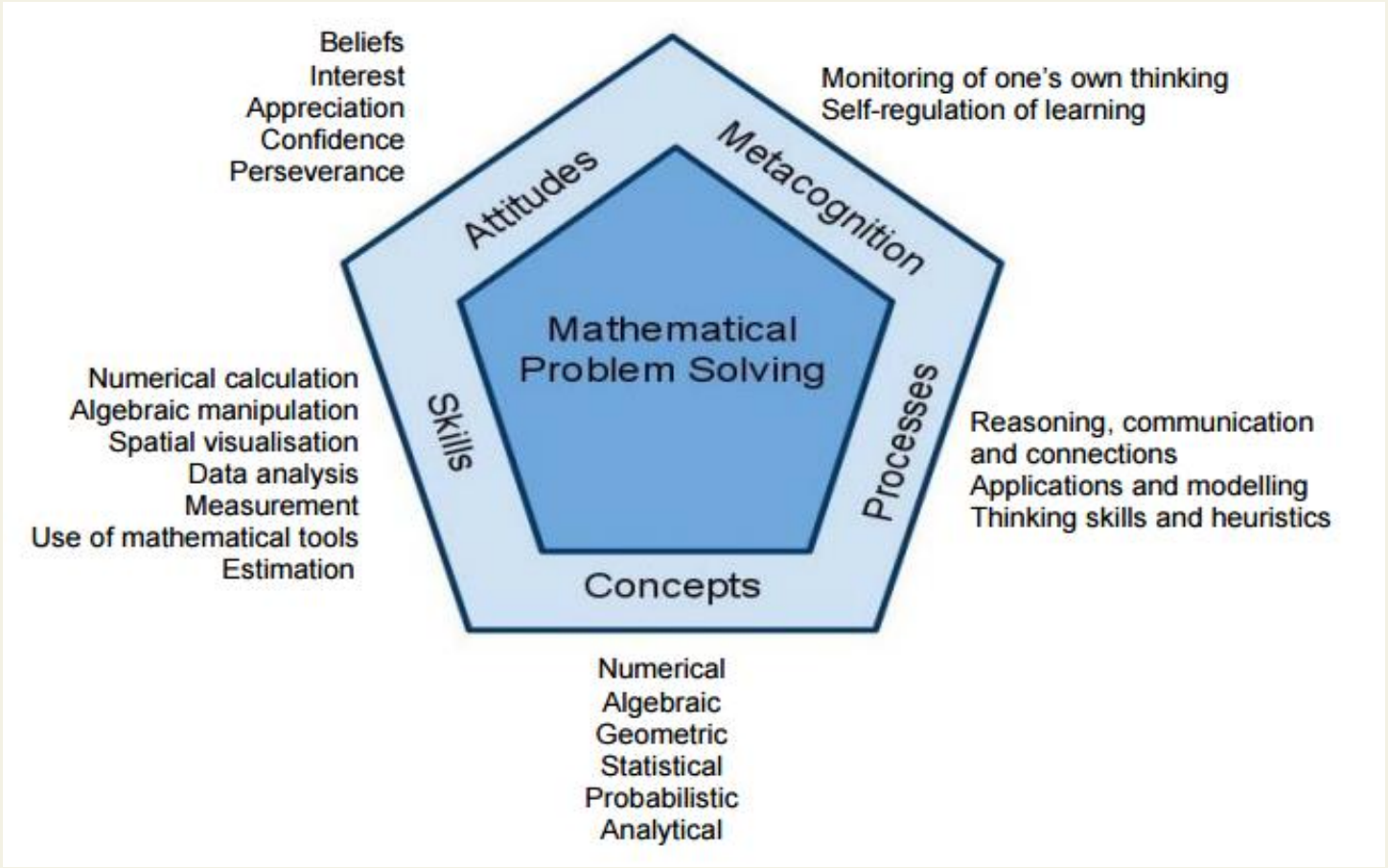
## SUBJECT-BASED BANDING BRIEFING

树群小学
Shuqun Primary

# Outline

- ✓ Mathematics curriculum framework
- ✓ SBB Math exam topics and format
- ✓ Types of questions
- ✓ Shuqun’s approach to helping students solve word problems
- ✓ Students’ common mistakes
- ✓ How to do well in examination
- ✓ How can parents support

# Math Curriculum Framework



# SBB Math Exam Topics

- Whole Numbers
- Fractions
- Decimals
- Geometry
- Area and Perimeter
- Table and Graph
- Time

# SBB Math Exam Format

**Duration: 1 hour 45 minutes**

| Booklet | Item type | No. of questions | Mark per question | Weighting |
|---|---|---|---|---|
| A | MCQ (Multiple Choice) | 15 | 2m | 30% |
| B | SAQ (Short-Answer) | 20 | 2m | 40% |
| | LAQ (Long-Answer) | 8 | 3m, 4m | 30% |

# Types of the questions

1. **Recall and perform computation**

   Recall mathematical facts, concepts, rules and formulae; perform straightforward computations

# Recall and perform computation

## Example 1

What is the value of digit 2 in 23 576?

(1) 20
(2) 200
(3) 2000
(4) 20 000

**Ans: 4**

# Recall and perform computation

## Example 2

There are 318 boxes of pencils.
Each box has 16 pencils.
How many pencils are there altogether?

318 x 16 = 5088

There are **5088** pencils altogether.

# Types of the questions

1. **Recall and perform computation**

   Recall mathematical facts, concepts, rules and formulae; perform straightforward computations

2. **Understand and apply**

   Interpret information; understand and apply mathematical concepts and skills in a variety of contexts.

# Understand and apply

## Example 3

Alex spent $24 on food and saved the remaining $6.
What fraction of his total money did he save?

(1) $\frac{1}{4}$

(2) $\frac{1}{5}$

(3) $\frac{4}{5}$

(4) $\frac{3}{4}$

**Ans: 2**

# Understand and apply

## Example 4

The sum of two numbers is 3825. The greater number is twice as much as the smaller number. What is the greater number?


3 units = 3825
1 unit = 3825 ÷ 3 = 1275
2 units = 1275 x 2 = 2550

The greater number is **2550**.

# Types of the questions

1. **Recall and perform computation**

   Recall mathematical facts, concepts, rules and formulae; perform straightforward computations

2. **Understand and apply**

   Interpret information; understand and apply mathematical concepts and skills in a variety of contexts.

3. **Reason and analyse**

   Reason mathematically; analyse information and make inferences;  select appropriate strategies to solve problems

# Reason and analyse

## Example 5

Mr Tan shared some coins with a group of children.
If he gave 8 coins to each child, he would have 3 coins left.
If he gave 9 coins to each child, he needed 2 more coins.
How many coins did Mr Tan have?

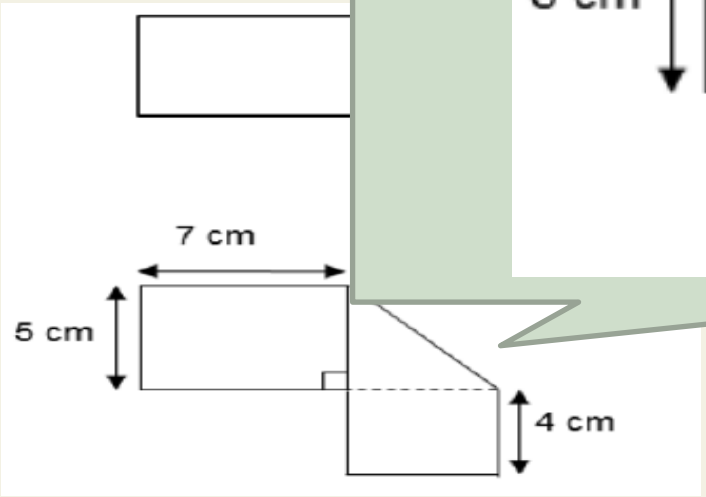
| | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| Multiples of 8 | 8 | 16 | 24 | 32 | 40 | …… |
| 3 coins left (+3): | 11 | 19 | 27 | 36 | 43 | …… |
| Multiples of 9 | 9 | 18 | 27 | 36 | 45 | …… |
| Need 2 coins (-2): | 7 | 16 | 25 | 34 | 43 | …… |

Mr Tan had **43** coins.

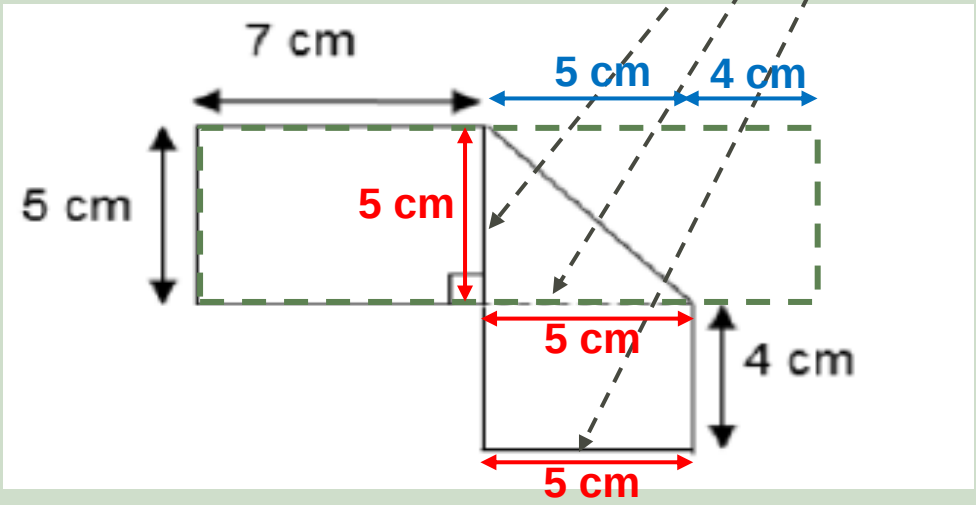
# Reason a

## Example

A rectangula wn below. What before it was




Reasoning: these sides have the *same length*




Area = L x B

= 16 cm x 5 cm

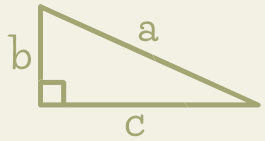
= 80 $cm^2$

2+2=4

42:9

x

# STAR approach in Problem Solving




+

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%

$2+2=4$

$\sqrt[n]{x}$

# How do you do solve a Mathematics problem?

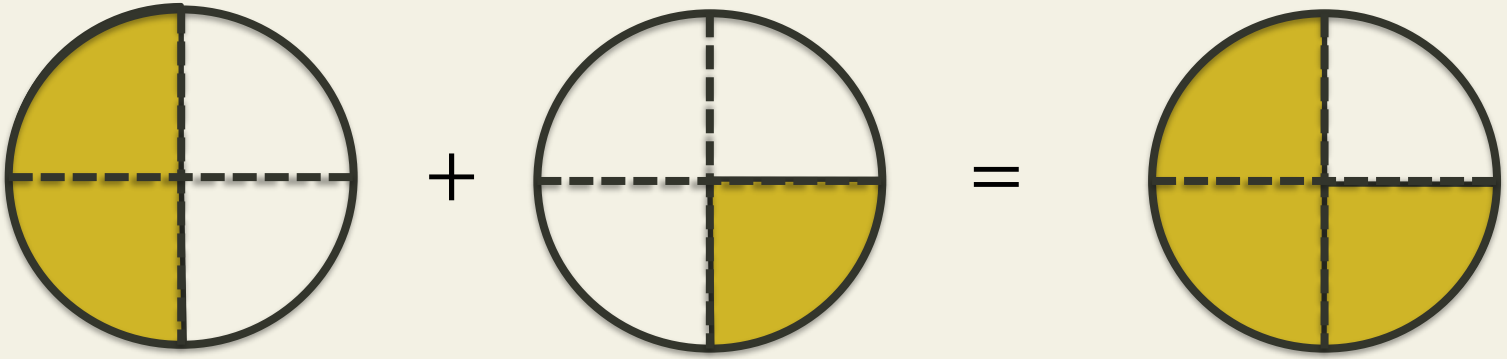
- ❑ **S**tudy the problem carefully
- ❑ **T**hink of a strategy
- ❑ **A**ct on the solution
- ❑ **R**eflect on the final answer

# Emphasis on Math Processes

- Mathematical reasoning and communication

  e.g. concept of fractions as equal parts

$$\frac{1}{2}+\frac{1}{4}=\frac{2}{4}+\frac{1}{4}=\frac{3}{4}$$

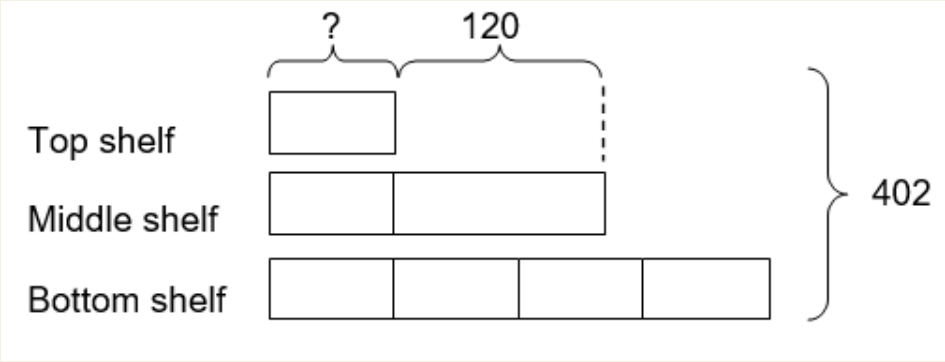


# Emphasis on Math Processes

- Use of thinking skills and strategies to solve problems,

e.g. model drawing

There were 402 books in a bookcase altogether.
The bookcase had three shelves.
The middle shelf had 120 more books than the top shelf.
The bottom shelf had 4 times as many books as the top shelf.
How many books were there on the top shelf?



# Student's Common Mistakes

## 1. Transfer error

Example: 9 x $12 = $108

$180 ÷ 2 = $90

Mr Ali has $9.

# Student's Common Mistakes

## 2. Omission or incorrect units of measurement

Example:

- ✓ 1 km = 100 m (Wrong fact)
- ✓ The volume of the water is 2. (Missing unit)

# Student's Common Mistakes

## 3. Writing incorrect Math equations

Example: $20 + 10 = 30 + 5 = 35$

not equal

(Wrong equations as the 2 steps are combined into one)

# How To Do Well in Examination

- ✓ Underline and annotate important information in word problems.
- ✓ Do not dwell too long on a question. Skip questions when unsure of the approach to solve the question and return to complete them later on.
- ✓ Attempt all questions.
- ✓ Show all the Math equations and workings.
- ✓ Check the accuracy of the calculations.

# How Parents Can Support Their Child

- Monitor the homework completion
  - Get your child to present his/her work clearly and systematically

- Encourage your child to have regular revision
  - Attempt questions where corrections have been made for previous mistakes
  - Get the basic facts and formulae right
  - Know what you are practicing

- Build time management skills
  - When doing a timed practice, get your child to complete the practice within the given time

# Thank you

For further queries, you may consult your child’s Math teacher.