

# P5 and P6 Parents' Workshop 2022



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**“Helping your child to  
Understand and Solve Word  
Problems”**

# Zoom Meeting Etiquette:

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- Turn your camera on and have your camera at eye level
- Stay muted unless you would like to speak to reduce background noise
- Make sure you sit in a well-lit and quiet place
- Be mindful of your background to minimise distractions for others
- You may use the chat function to key in your questions (if any)

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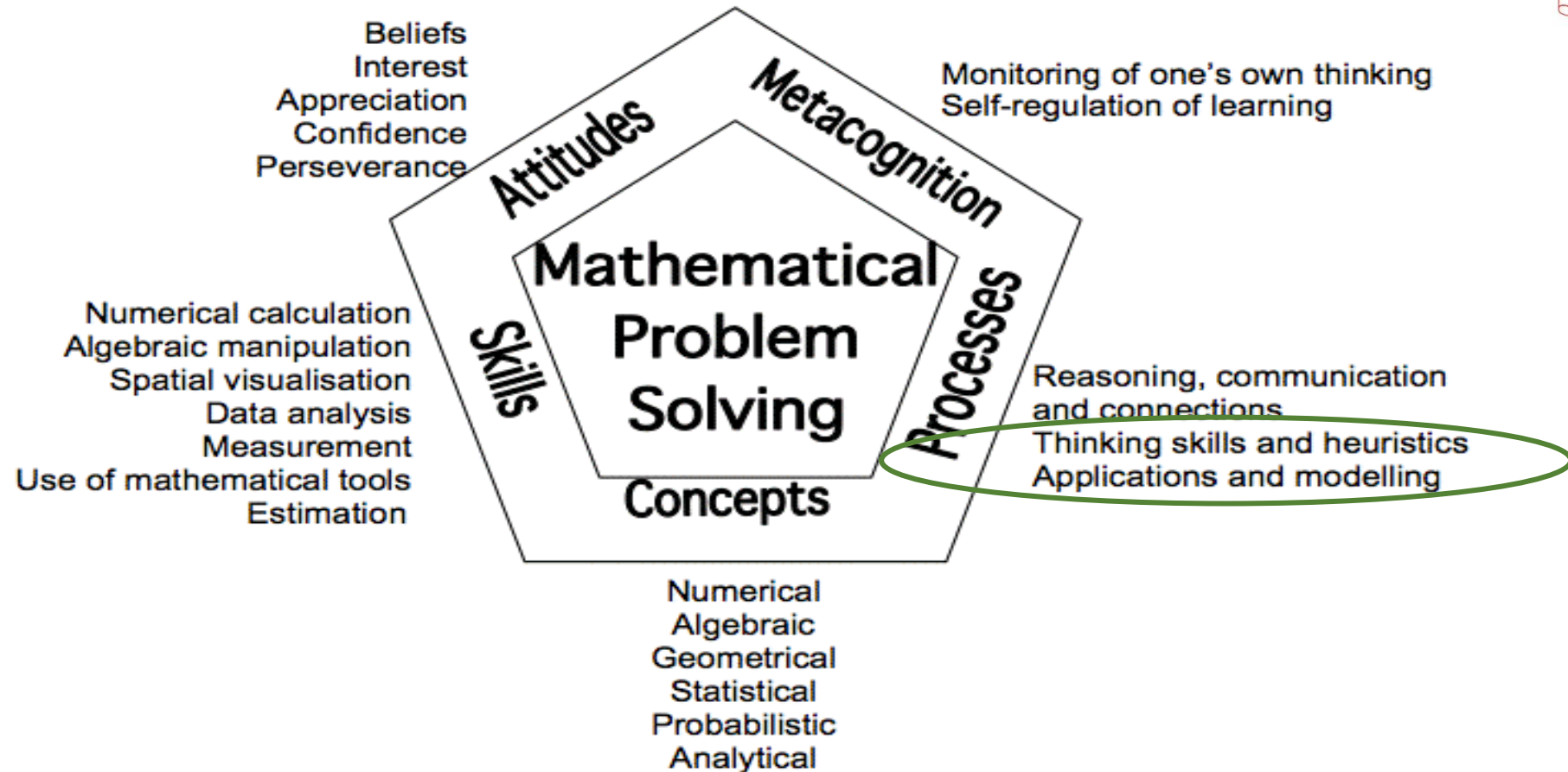
# Outline of Sharing

1. STAR Framework
2. Heuristic skills –
  - Guess and Check (Hands-on session 1)*
  - Make Suppositions*
  - Restate a Problem (Hands-on session 2)*
  - Draw a diagram/Work backwards*

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# MOE Math Framework

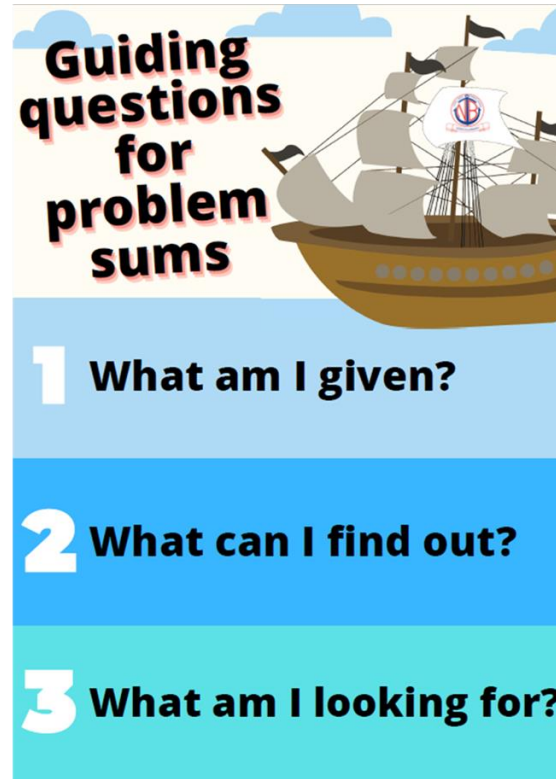
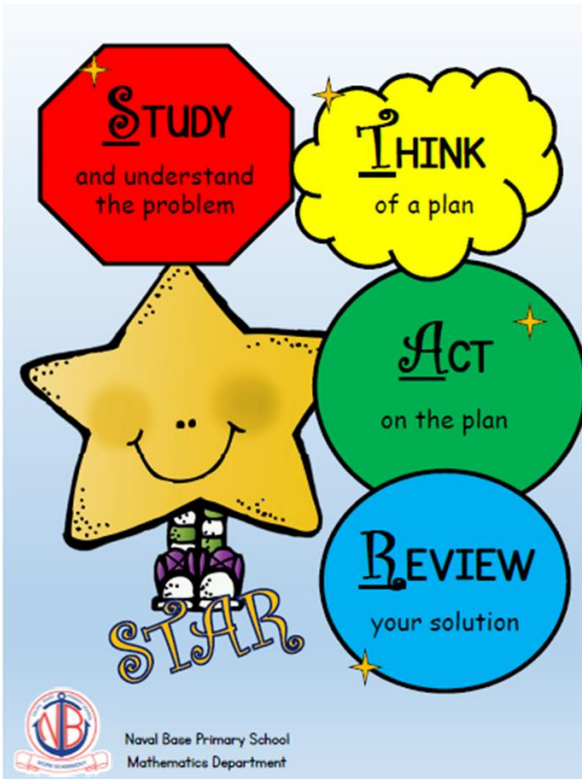


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# STAR Framework



- **Systematic approach** to scaffold students in problem solving
- Students use it as a **checklist** when they are solving word problems
- Implemented across levels P1 – P6

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# The Use of Heuristics could enhance students' problem solving performance



Categories	Heuristics
To give a representation	Draw a diagram, make a systematic list
To make a calculated guess	<u>Guess and check</u> , look for patterns, <u>make suppositions</u>
To go through the process	Act it out, work backwards, before-after concept
To change the problem	<u>Restate the problem</u> , simplify the problem, solve part of the problem



Hueristics	Level
Look for patterns	P1 to P6
Draw a diagram	P1 to P6
Act-it-out	P2 to P6
Guess and Check	P2 to P6
Make a systematic list	P2 to P6
Work backwards	P3 to P6
Make suppositions	P3 to P6
Simplify a problem	P3 to P6
Restate the problem	P5 to P6

- **Progressive approach** to teach the heuristic skills starting from P1 to solve non-routine/challenging questions.

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# Heuristics



- 1) Guess and Check
- 2) Make suppositions
- 3) Restate the problem  
(look at the problem in a different angle/way)
- 4) Draw a diagram/Work backwards

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# Guess and Check



- Guess and Check questions usually have the following characteristics:
  - Usually **2 criteria** to be used as a “Check” for “Guesses” of correct/incorrect answers
  - When **all criteria are fulfilled**, answers obtained can be considered correct
  - **2 variables or more** given in the word problem

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# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Guess and Check

In a test, each pupil had to answer 10 three-mark questions and 10 five-mark questions.

Ting Ting had 15 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

*Guess:*

- How many correct three-mark questions?
- How many correct five-mark questions?

*Check:*

- 15 correct answers
- 57 marks

Step 1:

- What am I given?  
(facts/ information/  
data)
- What am I asked to find?
- How can I make sense of the information given to me?
- What can I infer from the given data?

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Guess and Check

In a test, each pupil had to answer 10 three-mark questions and 10 five-mark questions.

Ting Ting had 15 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

Guess:

- How many correct three-mark questions?
- How many correct five-mark questions?

Check:

- 15 correct answers
- 57 marks

Step 2:

- What strategy should I use?
- Have I solved similar problems before?

We can use *Guess and Check* to find possible combinations of correct three-mark and five-mark questions in a table

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Guess and Check

In a test, each pupil had to answer 10 three-mark questions and 10 five-mark questions.

Ting Ting had 15 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

Step 3:  
I will write out the steps of my solutions

No. of correct three-mark questions	Marks from three-mark questions	No. of correct five-mark questions	Marks from five-mark questions	Marks scored	No. of correct answers	CHECK
7	$7 \times 3 = 21$	8	$8 \times 5 = 40$	$21 + 40 = \underline{61}$	<u>15</u>	X
8	$8 \times 3 = 24$	7	$7 \times 5 = 35$	$24 + 35 = \underline{59}$	<u>15</u>	X
9	$9 \times 3 = 27$	6	$6 \times 5 = 30$	$27 + 30 = \underline{57}$	<u>15</u>	✓

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Guess and Check

In a test, each pupil had to answer 10 three-mark questions and 10 five-mark questions

Ting Ting had 15 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

Step 4:

Have I answered the question?

- Is my answer reasonable / make sense?
- Have I checked my answers?
- Is there a better alternative?

No. of correct three-mark questions	Marks from three-mark questions	No. of correct five-mark questions	Marks from five-mark questions	Marks scored	No. of correct answers	CHECK
7	$7 \times 3 = 21$	8	$8 \times 5 = 40$	$21 + 40 = \underline{61}$	<u>15</u>	X
8	$8 \times 3 = 24$	7	$7 \times 5 = 35$	$24 + 35 = \underline{59}$	<u>15</u>	X
9	$9 \times 3 = 27$	6	$6 \times 5 = 30$	$27 + 30 = \underline{57}$	<u>15</u>	✓

Hands-on session 1 (5-10 min)



# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Guess and Check

In a test, each pupil had to answer 10 two-mark questions, 10 three-mark questions and 10 five-mark questions.

Ting Ting had 18 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

### Step 1:

- What am I given?  
(facts/ information/ data)
- What am I asked to find?
- How can I make sense of the information given to me?
- What can I infer from the given data?

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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In a test, each pupil had to answer 10 two-mark questions, 10 three-mark questions and 10 five-mark questions.

Ting Ting had 18 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

Step 4:

Have I answered the question?

- Is my answer reasonable / make sense?
- Have I checked my answers?
- Is there a better alternative?

No. of correct two-mark questions	Marks from two-mark questions	No. of correct three-mark questions	Marks from three-mark questions	No. of correct five-mark questions	Marks from five-mark questions	Marks scored	No. of correct answers	CHECK
6	$6 \times 2 = 12$	6	$6 \times 3 = 18$	6	$6 \times 5 = 30$	$12 + 18 + 30 = \underline{60}$	<u>18</u>	X
7	$7 \times 2 = 14$	6	$6 \times 3 = 18$	5	$5 \times 5 = 25$	$14 + 18 + 25 = \underline{57}$	<u>18</u>	✓
5	$5 \times 2 = 10$	9	$9 \times 3 = 27$	4	$4 \times 5 = 20$	$10 + 27 + 20 = \underline{57}$	<u>18</u>	✓

STAR Approach to Problem-Solving			
Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer

In a test, each pupil had to answer 10 two-mark questions, 10 three-mark questions and 10 five-mark questions.

Ting Ting had 18 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

Step 4:

Have I answered the question?

- Is my answer reasonable / make sense?
- Have I checked my answers?
- Is there a better alternative?

She correctly answered   5   two-mark questions,   9   three-mark questions and   4   five-mark questions.

Or

She correctly answered   7   two-mark questions,   6   three-mark questions and   5   five-mark questions.

# Make a supposition



- Supposition questions usually have the following characteristics:
  - Usually **2 criteria** (**2 variables found in a question**) to fulfil
  - When **all criteria are fulfilled**, answers obtained can be considered correct
- Method: Assume 1 part of the final answer to fulfil 1 of the criteria

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# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Make a Supposition

In a test, each pupil had to answer 10 three-mark questions and 10 five-mark questions.

Ting Ting had 15 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

Number of three-mark questions:	10
Number of five-mark questions:	10
Number of correct answers:	15
Score:	57

**What do we need to find?**

- Number of **CORRECT** three-mark questions
- Number of **CORRECT** five-mark questions

Step 1:

- What am I given? (facts/ information/ data)
- What am I asked to find?
- How can I make sense of the information given to me?
- What can I infer from the given data?

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Make a Supposition

Step 2:

- What strategy should I use?
- Have I solved similar problems before?

In a test, each pupil had to answer 10 three-mark questions and 10 five-mark questions.

Ting Ting had 15 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

Fulfil **2 final answers** to achieve the full marks for the question:

- Number of correct three-mark questions
- Number of correct five-mark questions

Fulfil **2 criteria** when answering the question:

- 15 correct answers
- 57 marks

Choose either:

- Make a Supposition
- OR
- Guess & Check



# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Make a Supposition

Step 3:

I will write out the steps of my solutions

In a test, each pupil had to answer 10 three-mark questions and 10 five-mark questions.

Ting Ting had 15 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

**Assume that Ting Ting answered 15 five-marks questions correctly**

(1)  $15 \times 5 = 75$  (Number of marks Ting Ting would have scored if she scored 15 five-mark questions correctly)

(2)  $5 - 3 = 2$  (Difference in marks between a five-mark and three mark question)

(3)  $75 - 57 = 18$  (Difference in marks between assumed marks and real marks)

(4)  $18 \div 2 = 9$  (number of three-mark questions Ting Ting answered correctly)

(5)  $15 - 9 = 6$  (number of five-mark questions Ting Ting answered correctly)

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Make a Supposition

Step 4:

Have I answered the question?

- Is my answer reasonable / make sense?
- Have I checked my answers?
- Is there a better alternative?

In a test, each pupil had to answer 10 three-mark questions and 10 five-mark questions.

Ting Ting had 15 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

**Assume that Ting Ting answered 15 three-marks questions correctly**

(1)  $15 \times 3 = 45$  (number of marks Ting Ting would have scored if she scored 15 three-mark questions correctly)

(2)  $5 - 3 = 2$  (Difference in marks between a five-mark and three mark question)

(3)  $57 - 45 = 12$  (Difference in marks between assumed marks and real marks)

(4)  $12 \div 2 = 6$  (number of five-mark questions Ting Ting answered correctly)

(5)  $15 - 6 = 9$  (number of three-mark questions Ting Ting answered correctly)

**Alternative method:**

Assume Ting Ting answered 15 three-marks questions correctly.

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Can we use Make suppositions to solve this word problem?

In a test, each pupil had to answer 10 two-mark questions, 10 three-mark questions and 10 five-mark questions.

Ting Ting had 18 correct answers and scored 57 marks.

How many questions of each kind did she answer correctly?

## Which heuristic can we use then?

### Step 1:

- What am I given?  
(facts/ information/ data)
- What am I asked to find?
- How can I make sense of the information given to me?
- What can I infer from the given data?

# Restate the problem



## STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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# Restate the problem Q1



Four teams representing four different schools took part in a netball match and every team played against each other team once.

There were no draws in this match.

Team A won 'a' games

Team B won 'b' games

Team C won 'c' games

Team D won 'd' games

Find the total value of  $a + b + c + d$ .

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# Restate the problem



Four teams representing four different schools took part in a netball match and every team played against each other team once.

There were no draws in this match.

Team A won 'a' games

Team B won 'b' games

Team C won 'c' games

Team D won 'd' games

Step 1:

- What am I given?  
(facts/ information/  
data)

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# Restate the problem



- What am I asked to find?

Find the total value of  $a + b + c + d$ .

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# Restate the problem



The problem of finding the total value of  $a + b + c + d$  can be restated as finding the total number of games played in the match.

## Process of changing the problem:

AB, AC, AD	Number of games won by A = 3 --- (a)
BC, BD	Number of games won by B = 2 --- (b)
CD	Number of games won by C = 1 --- (c)
	Number of games won by D = 0 --- (d)

- How can I make sense of the information given to me?
- What can I infer from the given data?

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# Restate the problem



## Process of changing the problem:

AB, AC, AD      Number of games won by A = 3 --- (a)

BC, BD          Number of games won by B = 2 --- (b)

CD                Number of games won by C = 1 --- (c)

Number of games won by D = 0 --- (d)

The total number of games played =  $3 + 2 + 1 = 6$

6 games played = 6 games won by the teams (no draws).

Hence, the value of  $a + b + c + d = 6$

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# Restate the problem Q2



Parents to think through for about 1 minute

Find the sum of the first 20 numbers.

$$1 + 2 + 3 + 4 + 5 + 6 + \dots + 19 + 20 = ?$$

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# Restate the problem Q2



Find the sum of the first 20 numbers.

$$1 + 2 + 3 + 4 + 5 + 6 + \dots + 19 + 20 = ?$$

Step 1:

- What am I given?  
(facts/ information/  
data)

- What am I asked to  
find?

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**Restate the problem** by pairing the numbers and then find the sum of every pair of numbers

Find the sum of the first 20 numbers.

$$1 + 2 + 3 + \dots + 10 + \dots + 18 + 19 + 20 = ?$$

**Last Number  $\div 2$   
No partner**

- How can I make sense of the information given to me?
- What can I infer from the given data?

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$$0 + 20 = 20$$

$$1 + 19 = 20$$

$$2 + 18 = 20$$

$$3 + 17 = 20$$

$$4 + 16 = 20$$

$$5 + 15 = 20$$

$$6 + 14 = 20$$

$$7 + 13 = 20$$

$$8 + 12 = 20$$

$$9 + 11 = 20$$

$$\underline{10 + 0 = 10}$$

**20 divided by 2 = 10 pairs/groups**  
**10 groups x 20 = 200**

- How can I make sense of the information given to me?
- What can I infer from the given data?

There are 10 sets of 20 ( $20 \times 10 = 200$ )

Add (last number)

$$= 200 + 10 = 210$$

Hence, the answer is 210

Parents to think through for about 1 minute



Will the method work for the following question?

(a) Find the sum of the first 40 numbers.

(b) Find the sum of the first 100 numbers

(a)  $40 \div 2 = 20$  (20 groups/pairs of 40)

$$40 \times 20 = 800$$

$$800 + 20 = 820 \text{ (20 is the number without a partner)}$$

(b)  $100 \div 2 = 50$

$$100 \times 50 = 5000$$

$$5000 + 50 = 5050$$

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# Draw a Diagram/Model Q3



## STAR Approach to Problem-Solving

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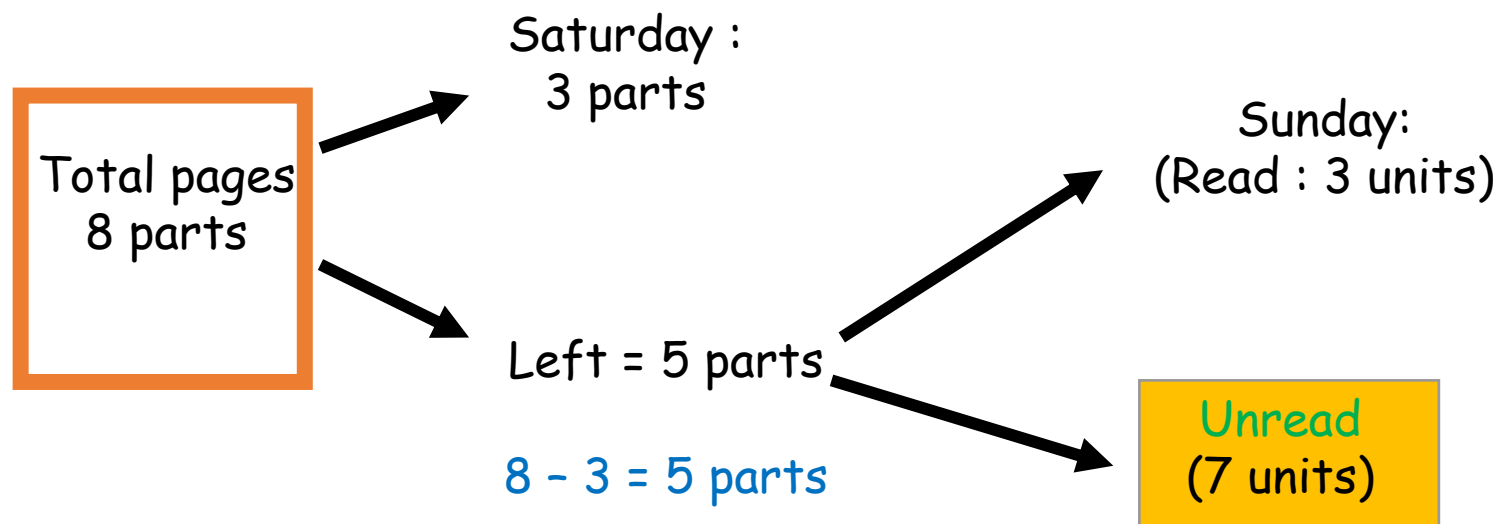
# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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On Saturday, Jane read  $\frac{3}{8}$  of her story book.

On Sunday, she read  $\frac{3}{10}$  of the remaining book.

What fraction of the book remained unread?



Step 1:

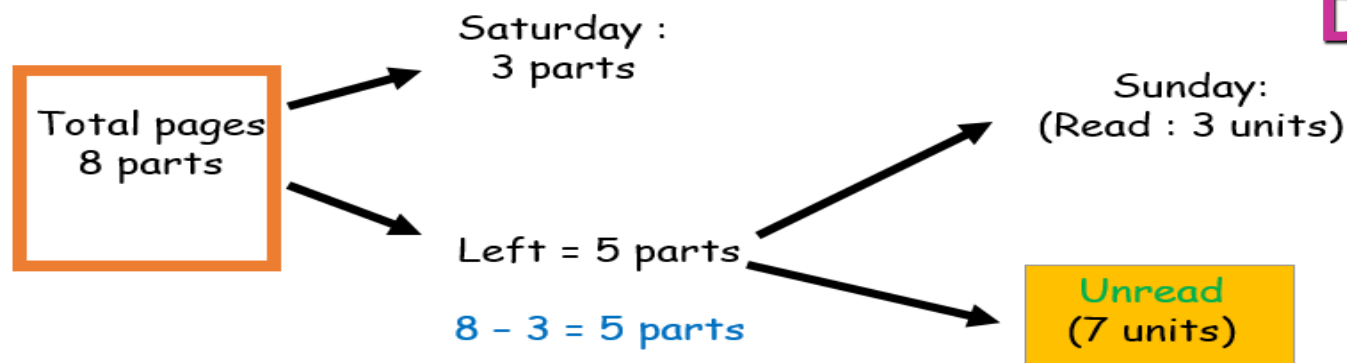
- What am I given? (facts/ information/ data)
- What am I asked to find?

- How can I make sense of the information given to me?
- What can I infer from the given data?

# STAR Approach to Problem-Solving

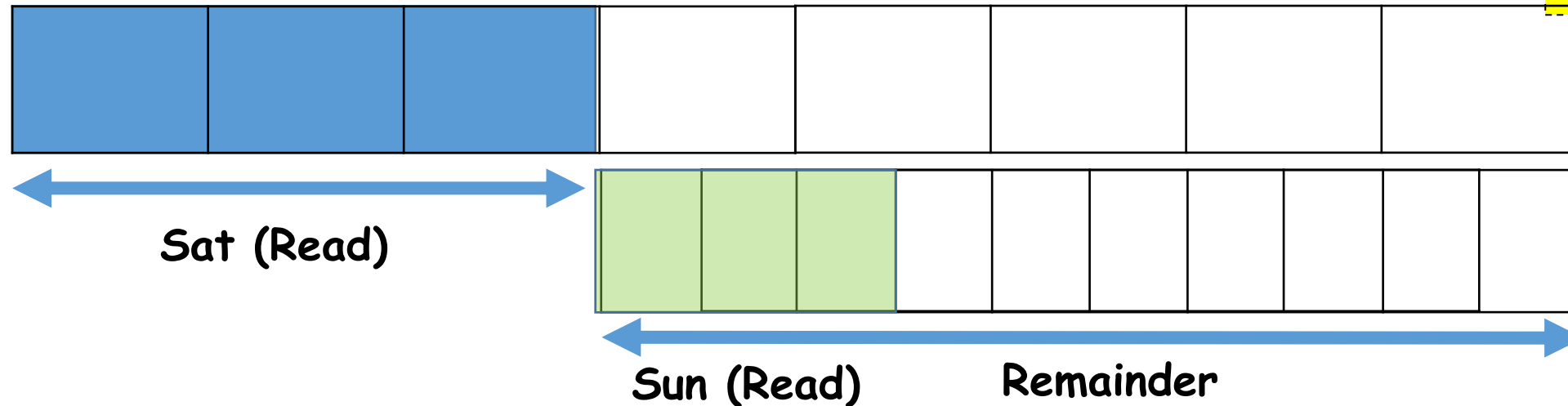
Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Draw a diagram/model drawing



### Step 2:

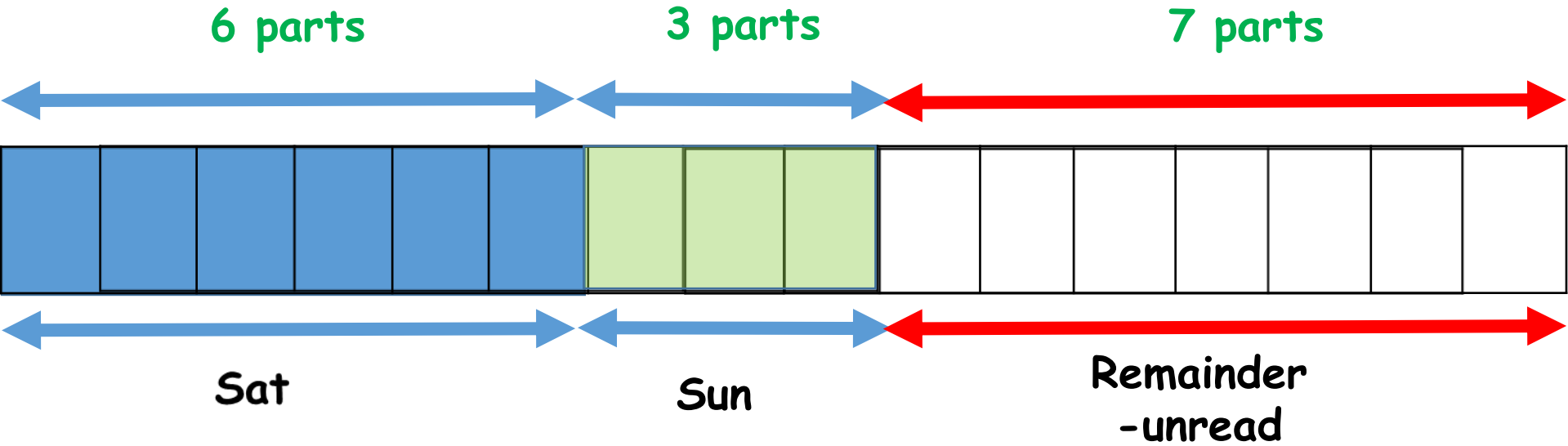
- What strategy should I use?
- Have I solved similar problems before?



5 parts = 10 units  
Sun (Read = 3 parts)  
Unread = 7 parts

STAR Approach to Problem-Solving			
Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer

Draw a diagram/model drawing



# STAR Approach to Problem-Solving

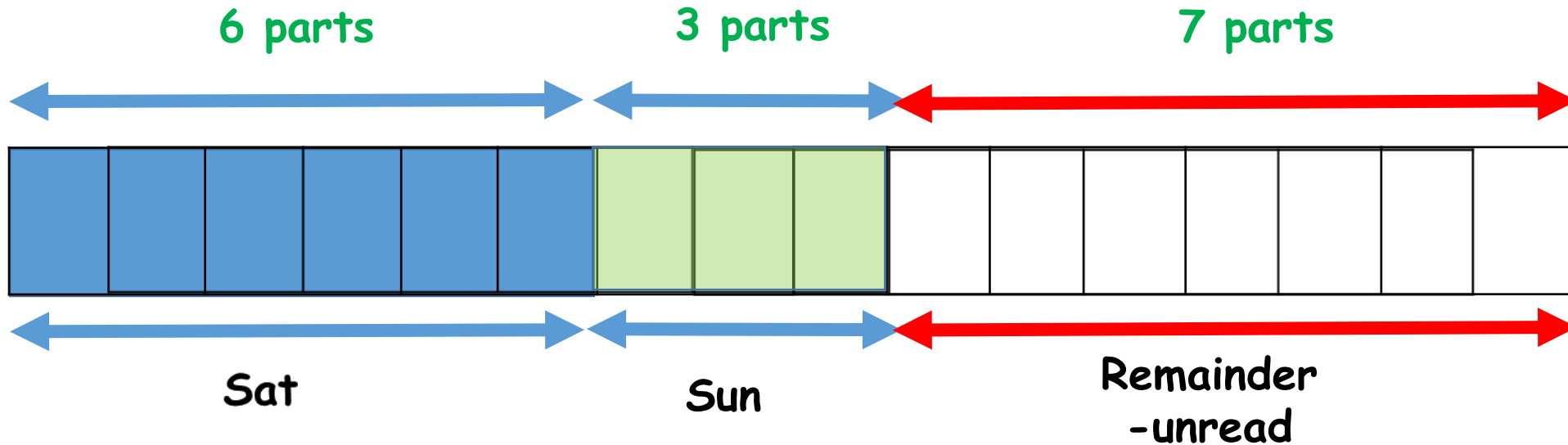
Step 1: Stop and read the problem carefully

Step 2: Think about your plan and strategy you will use

Step 3: Act: Follow your plan and solve your problem.

Step 4: Review your answer

**Draw a diagram/model drawing**



What fraction of the book remained unread?  $\frac{7}{16}$

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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On Saturday, Jane read  $\frac{3}{8}$  of her story book.

Total = 16 parts  
Sat Read : 6 parts

On Sunday, she read  $\frac{3}{10}$  of the remaining book.

Balance = 10 parts  
Sun read : 3 parts  
Remained unread : 7 parts

What fraction of the book remained unread?



# Everything Changed Concept



- Every part changes, the difference changes, the total changes....Nothing remains the same...no constant variables basically
- Form equations/use unit-and-part concepts
- Form equal parts (or units) in order to solve the word problems.

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# STAR Approach to Problem-Solving

Step 1: Stop and read the problem carefully

Step 2: Think about your plan and strategy you will use

Step 3: Act: Follow your plan and solve your problem.

Step 4: Review your answer

## Everything Changed Concept (PSLE Question)

Carl had 75% as much money as Vijay. After Carl received \$200 from his uncle and Vijay spent \$50, Carl had twice as much money as Vijay.

How much money had Carl at first?

Before ratio-- Carl : Vijay

75 : 100

3 : 4 (ratio in its simplest form)

Carl has \$200 more & Vijay has \$50 less in the end

After ratio -- Carl : Vijay

2 : 1 (ratio in its simplest form)

Everything changes. No constant variable.

Step 1:

- What am I given? (facts/ information/ data)
- What am I asked to find?
- How can I make sense of the information given to me?
- What can I **infer** from the given data?

# STAR Approach to Problem-Solving

Step 1: Stop and read the problem carefully

Step 2: Think about your plan and strategy you will use

Step 3: Act: Follow your plan and solve your problem.

Step 4: Review your answer

## Everything Changed Concept (PSLE Question)

Carl had 75% as much money as Vijay. After Carl received \$200 from his uncle and Vijay spent \$50, Carl had twice as much money as Vijay.  
How much money had Carl at first?

Step 2:

- What **strategy** should I use?
- Have I solved similar problems before?

Form equations / use unit-and-part concepts to solve the word problem.

Before ratio-- Carl : Vijay  
3 : 4

After ratio -- Carl : Vijay  
2 : 1



	Before	Change	After
Carl	3u	+200	2p
Vijay	4u	- 50	1p

Note: u stands for units and p stands for parts

# STAR Approach to Problem-Solving

Step 1: Stop and read the problem carefully

Step 2: Think about your plan and strategy you will use

Step 3: Act: Follow your plan and solve your problem.

Step 4: Review your answer

## Everything Changed Concept (PSLE Question)

Carl had 75% as much money as Vijay. After Carl received \$200 from his uncle and Vijay spent \$50, Carl had twice as much money as Vijay.

How much money had Carl at first?

Step 3:

I will write out the steps of my solutions

Form equations using units and parts.

Vijay (in the end)  
 $1p = 4u - 50$

Carl (in the end)  
 $2p = 3u + 200$

	Before	Change	After
Carl	3u	+200	2p
Vijay	4u	- 50	1p

# STAR Approach to Problem-Solving

Step 1: Stop and read the problem carefully

Step 2: Think about your plan and strategy you will use

Step 3: Act: Follow your plan and solve your problem.

Step 4: Review your answer

## Everything Changed Concept (PSLE Question)

Carl had 75% as much money as Vijay. After Carl received \$200 from his uncle and Vijay spent \$50, Carl had twice as much money as Vijay.

How much money had Carl at first?

Make the parts of Vijay's money equal to Carl's money in the end.

$$1p = 4u - 50$$

$$2p = 8u - 100 \text{ (twice of } 4u - 50\text{)}$$

$$\begin{array}{l} \text{Vijay (in the end)} \\ 1p = 4u - 50 \end{array}$$

$$\begin{array}{l} \text{Carl (in the end)} \\ 2p = 3u + 200 \end{array}$$

Therefore,

$$8u - 100 = 3u + 200$$

$$5u = 300$$

$$1u = 60$$

$$\begin{array}{l} \text{Amt. Carl had at first} = 3 \times 60 \\ = 180 \end{array}$$

Ans: \$180

Step 3:

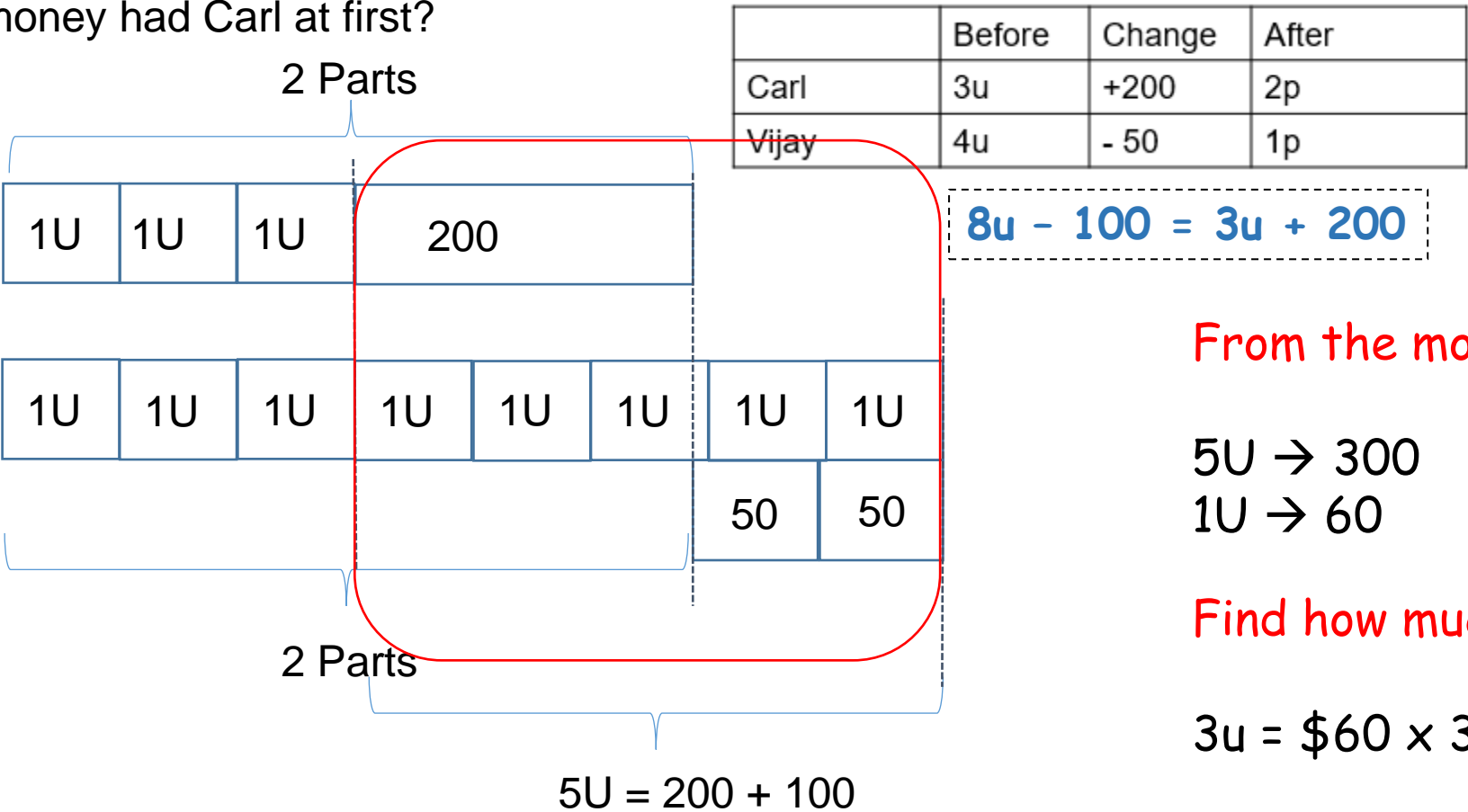
I will write out the steps of my solutions

STAR Approach to Problem-Solving			
Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer

Everything Changed Concept (PSLE Question)

Carl had 75% as much money as Vijay. After Carl received \$200 from his uncle and Vijay spent \$50, Carl had twice as much money as Vijay.

How much money had Carl at first?



Step 3:  
I will write out the steps of my solutions

From the model.

5U → 300  
1U → 60

Find how much Carl had at first?

3u = \$60 × 3 = \$180

# STAR Approach to Problem-Solving

Step 1: Stop and read the problem carefully

Step 2: Think about your plan and strategy you will use

Step 3: Act: Follow your plan and solve your problem.

Step 4: Review your answer

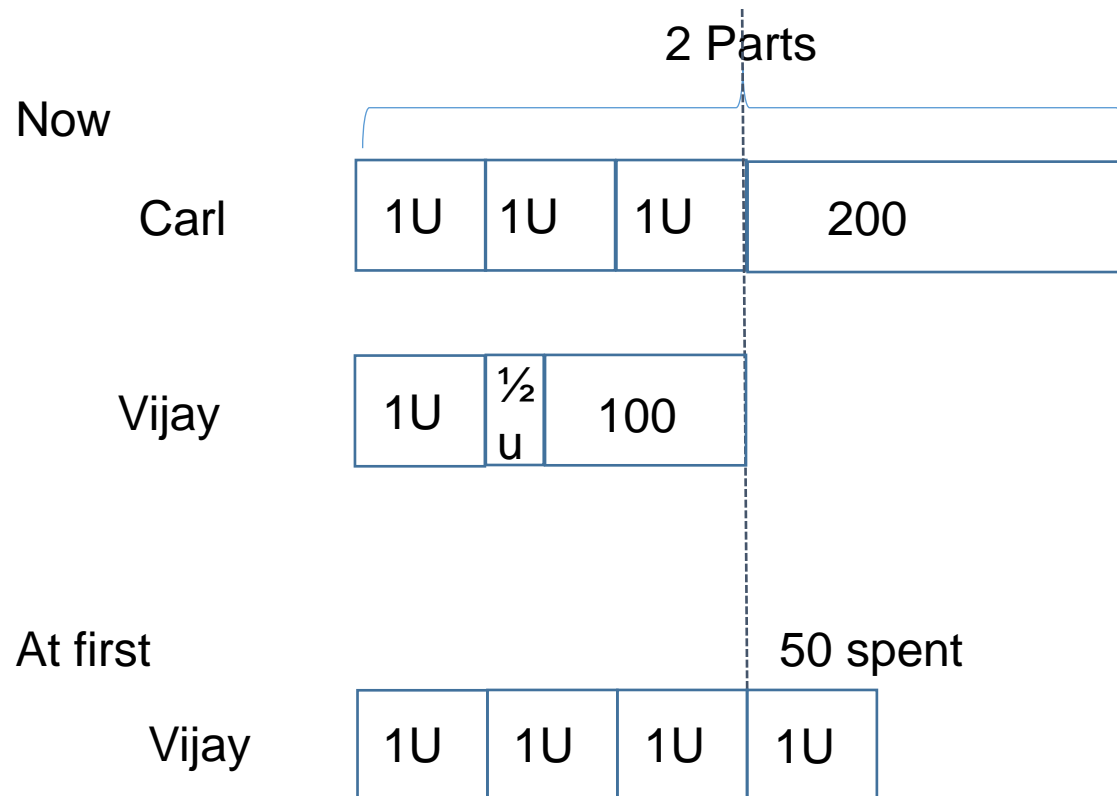
## Everything Changed Concept (PSLE Question)

Carl had 75% as much money as Vijay. After Carl received \$200 from his uncle and Vijay spent \$50, Carl had twice as much money as Vijay.

How much money had Carl at first?

Step 3:

I will write out the steps of my solutions



From Vijay's models (now and at first),

$$1u + \frac{1}{2}u + 100 + 50 = 4u$$

$$4u - 1\frac{1}{2}u = 150$$

$$2\frac{1}{2}u = 150$$

$$5u = 150 \times 2 \text{ (2 sets of } 2\frac{1}{2}u = 5u) \\ = 300$$

$$1u = 300 \div 5 = 60$$

$$3u = 60 \times 3 = 180\#$$

# STAR Approach to Problem-Solving

Step 1: <u>Stop</u> and read the problem carefully	Step 2: <u>Think</u> about your plan and strategy you will use	Step 3: <u>Act</u> : Follow your plan and solve your problem.	Step 4: <u>Review</u> your answer
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## Everything Changed Concept (PSLE Question)

Carl had 75% as much money as Vijay. After Carl received \$200 from his uncle and Vijay spent \$50, Carl had twice as much money as Vijay.

How much money had Carl at first?

Step 4:

Have I answered the question?

- Is my answer reasonable / make sense?
- Have I **checked** my answers?
- Is there a better alternative?

Check the steps and use the actual amount of money calculated to express the quantities in the form of ratio as 2 : 1 (in the end).

Carl at first : \$180

Carl in the end: \$180 + \$200 = \$380

Vijay at first: \$60 × 4 = \$240

Vijay in the end: \$240 - \$50 = \$190

C : V = 380 : 190

= 2 : 1



# Common Mistakes

- ✓ **Carelessness in calculation**
- ✓ **Transfer information wrongly from question to working.**
- ✓ **Transfer final answer wrongly from working to final answer blank.**
- ✓ **Missing units**  
Forgetting to include units given in 2-marks or more questions.
- ✓ **Decimal notations for money**  
Dollars and cents must be expressed in 2 decimal places. Example, \$14.50, not \$14.5
- ✓ **Reading the question wrongly- missing out the key words.**



# Tips for PSLE

- ✓ Ensure your child is familiar with the essential functions of his/her calculator and only use it for Paper 2 questions.
- ✓ Practise the use of the tools like protractor and set-squares for measuring and constructing figures (Mathematical Instrument set).
- ✓ Discourage your child to rely on correction tape or liquid paper(though it is allowed).
- ✓ Encourage your child to use a blue ballpoint pen for written answers.



# Tips for PSLE

- ✓ Discourage your child to attempt solving a question for more than 10 minutes (Paper 2). Move on to the questions that they may be able to solve.
- ✓ Temporary to skip questions that the students have difficulty to do and to revisit them at the end.
- ✓ Revisit the rules and formulae.

**Have sufficient rest especially the day before the paper!**





# Q & A



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# Feedback



<https://go.gov.sg/parentsworkshop>

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**Thank you!**

**Prepared and presented by:**

**Mdm Julia, Mr Anwar,  
Miss Low and Miss Nashita**

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