MATH WORKSHOP

For Parents

31 March 2023

By:
Ms Nicole Chee
Mrs Tay Yuyan

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PROBLEM SOLVING

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PROBLEM SOLVING STRATEGIES

READ 

IDENTIFY KEYWORDS 

GET A PLAN 

HAVE IT DONE 

TRIPLE CHECK 

MEWAS

- Statement
- Answer
- Working
- Equation
- Model

NTUC

- Number
- Transfer
- Units
- Calculation

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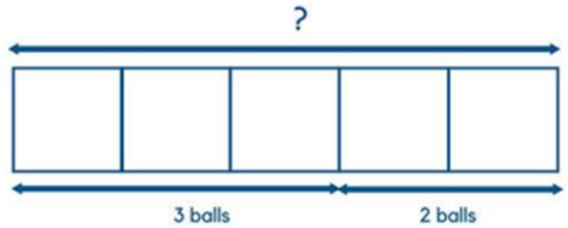
A COMPLETE ANSWER HAS . . .

Model



Equation 2+4=

Working

$$\begin{array}{r} {}^{6}\not{7}\not{2}8 \\ -\ 51 \\ \hline 677 \end{array}$$

Answer **677**

Statement

He has 677 shells altogether.

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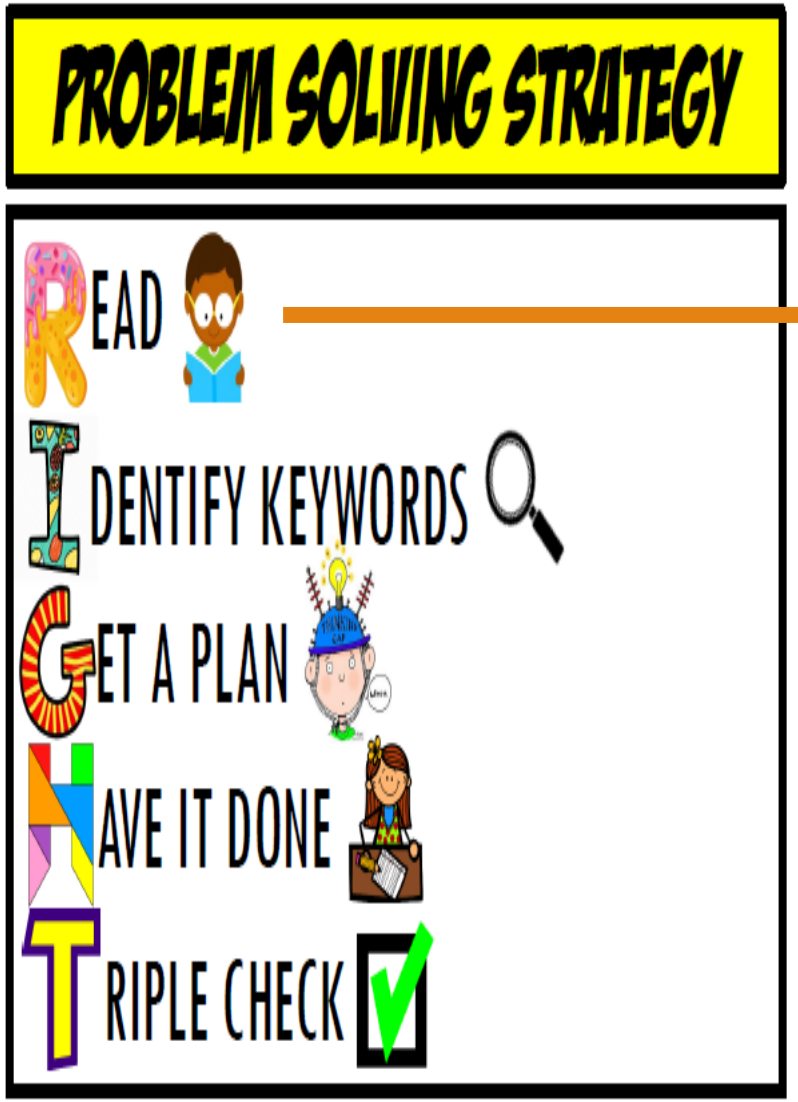

Topic

Whole numbers
Rate
Algebra
Decimals
Fractions
Percentage
Ratio
Measurements
Area and Perimeter
Volume
Geometry
Graphs

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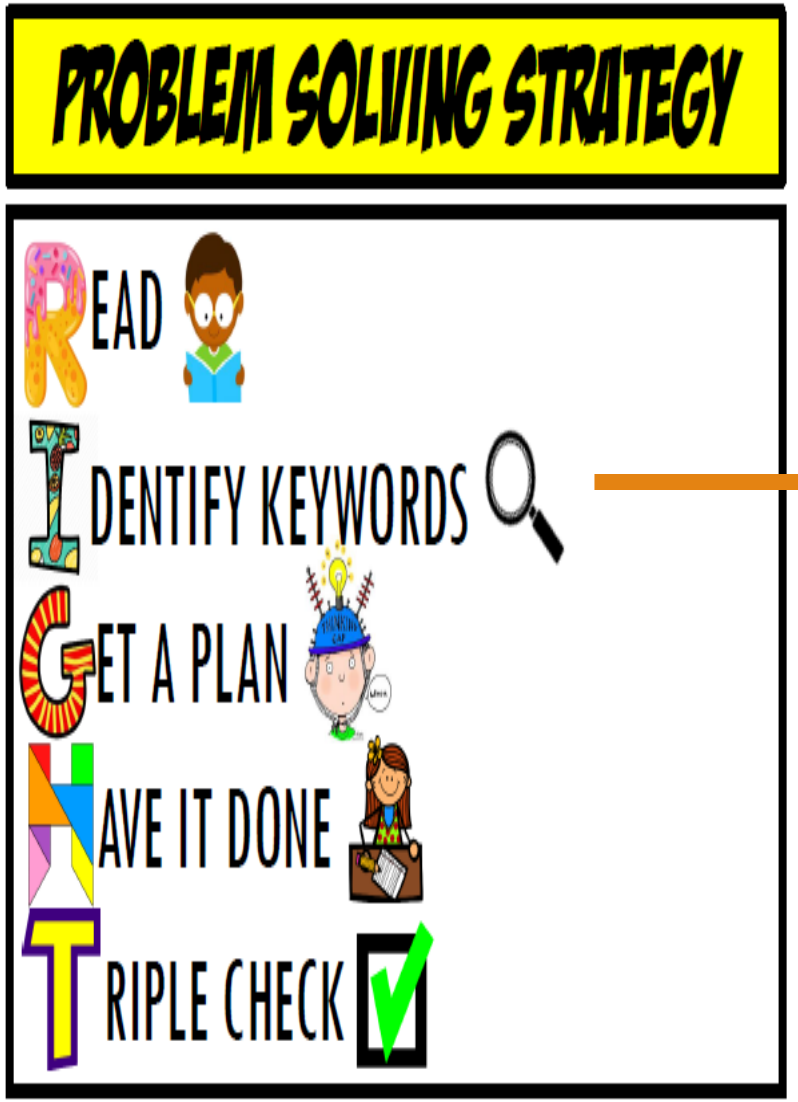

Type of question

More / Less than / as many as
Equal concept
Unknown beginning
Repeated item
Gaps and Differences
Number x Value
Remainder concept
Before & After
Equal Fractions
Part-whole
Double if

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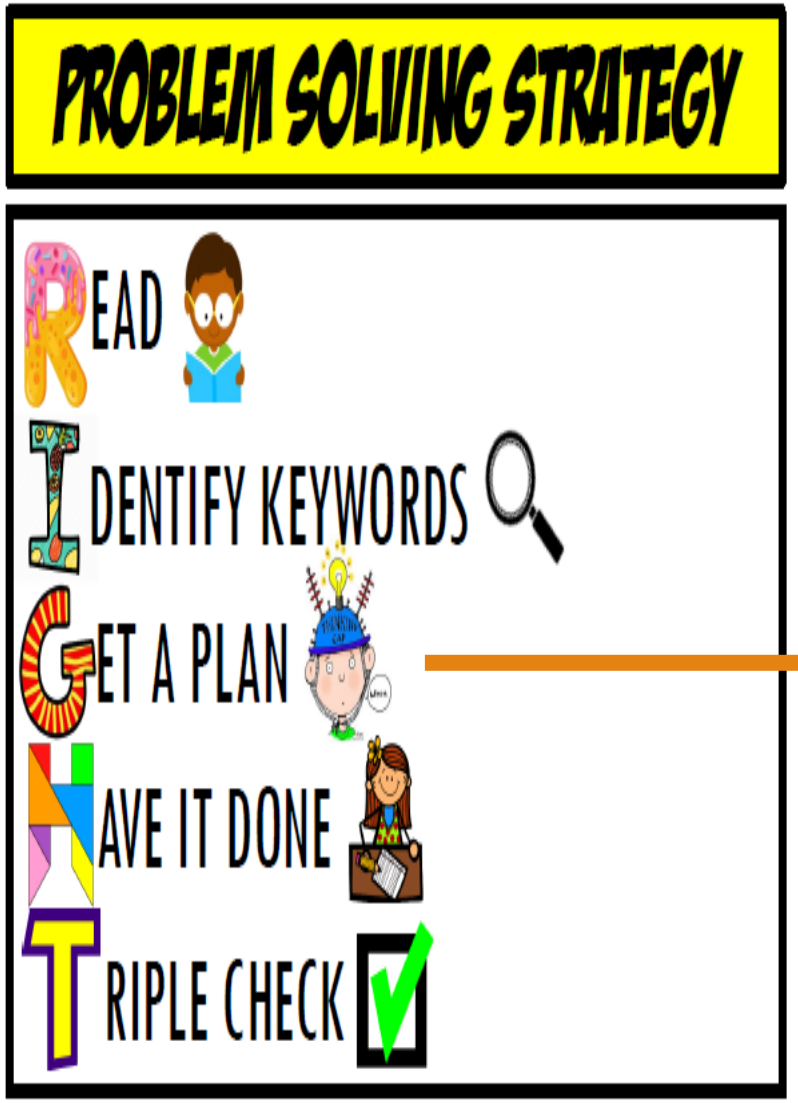

Heuristics

- Act it out
- Use a diagram
- **Model Drawing**
- **Branching**
- Looking for Pattern
- Work backwards
- Make suppositions
- Restate the problem

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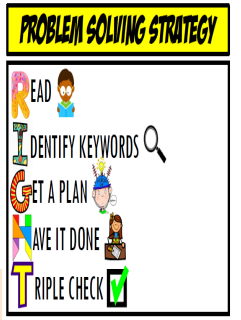
QUESTION 1 PRIMARY 2



Fatimah has 305 stickers.
Kelly has 377 stickers.
How many more stickers does Kelly have than Fatimah?

Read	Topic	Whole Numbers
Identify keywords	Type of qns	More than / less than
Get a plan	Heuristics	Model

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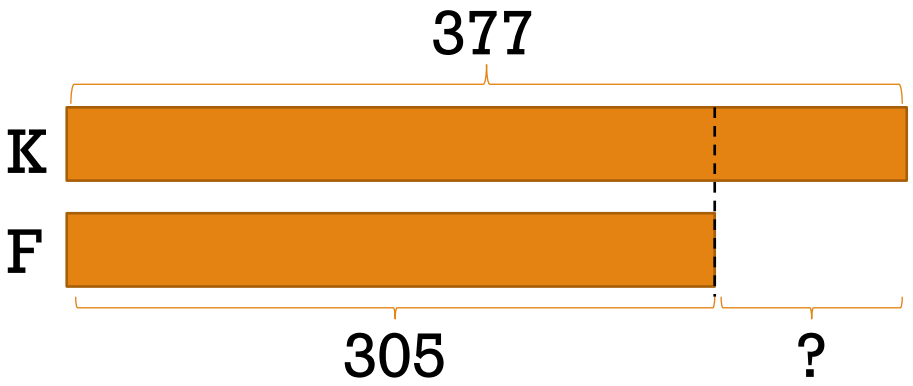
QUESTION 1 PRIMARY 2

MEWAS
Model
Equation
Working
Answer
Statement

Fatimah has 305 stickers.
Kelly has 377 stickers.
How many more stickers does Kelly have than Fatimah?



$$377 - 305 = 72$$

$$\begin{array}{r} 377 \\ -\ 305 \\ \hline 72 \end{array}$$

Kelly has **72** more stickers than Fatimah.

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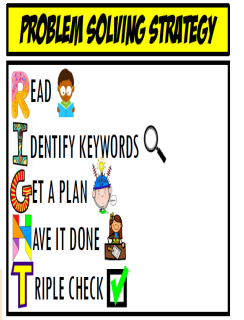
QUESTION 2 PRIMARY 4



A dining table and 4 similar chairs cost $1650.
The cost of the table is $150 more than the cost of each chair.
How much does the table cost?

Read	Topic	Whole Numbers
Identify keywords	Type of qns	More than / less than
Get a plan	Heuristics	Model

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QUESTION 2 PRIMARY 4

MEWAS
Model
Equation
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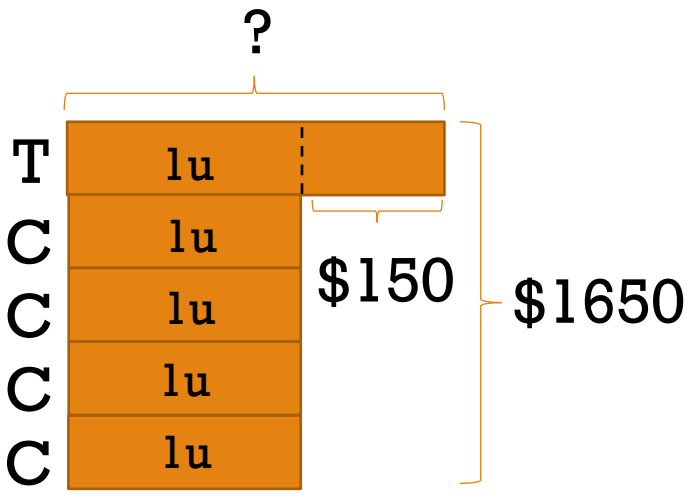

The units for the chairs are 'stacked' on top of one another to allow for easier comparison of equal units after removing the difference between quantities.

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QUESTION 2 PRIMARY 4

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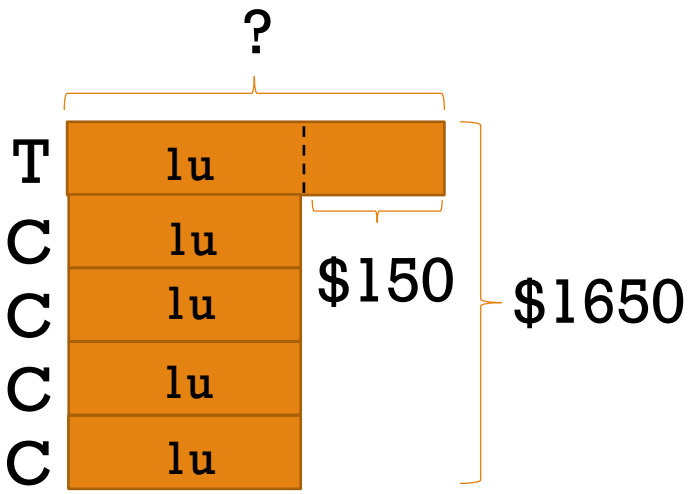

$$1650 - 150 = 1500$$

$$5u = 1500$$

$$1u = 1500 \div 5$$

$$= 300$$

$$300 + 150 = 450$$

$$\begin{array}{r} 1650 \\ -\ 150 \\ \hline 1500 \end{array}$$

$$\begin{array}{r} 300 \\ +\ 150 \\ \hline 450 \end{array}$$

$$5\overline{)1500} = 300$$

15
0
0
0
0

The cost of a table is **$450**.

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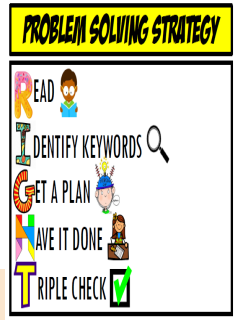
QUESTION 3

PSLE 2018 PAPER 2 Q5 (2 MARKS)



Ken had $15 more than Lisa at first. After Ken gave some of his money to Lisa, he had $21 less than Lisa. How much money did Ken give to Lisa?

Read	→ Topic	→ Whole Numbers
Identify keywords	→ Type of qns	→ More than / less than
Get a plan	→ Heuristics	→ Model

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QUESTION 3

PSLE 2018 PAPER 2 Q5 (2 MARKS)

MEWAS
Model
Equation
Working
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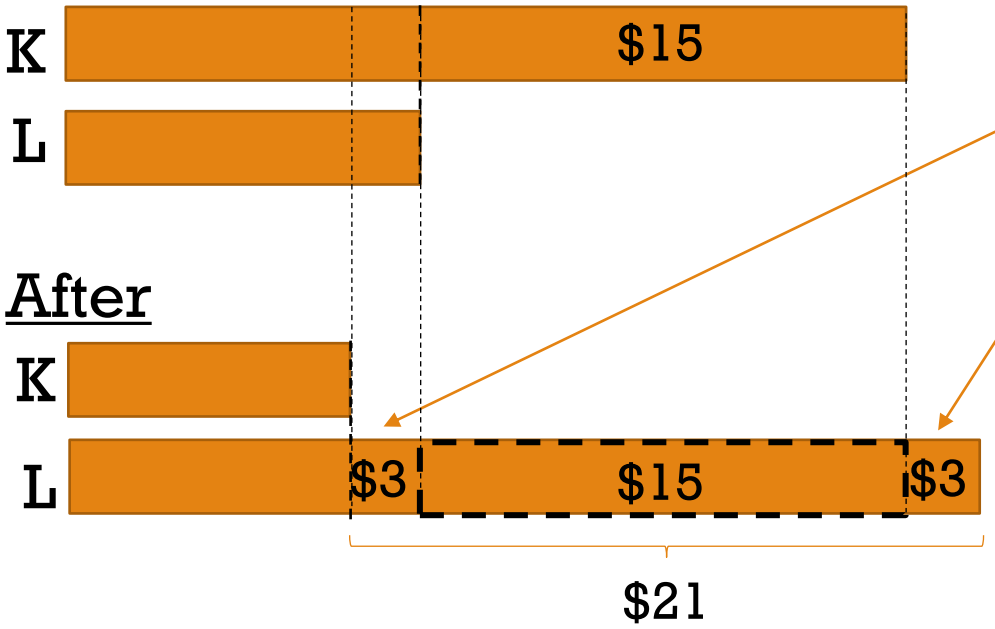
Ken had $15 more than Lisa at first. After Ken gave some of his money to Lisa, he had $21 less than Lisa. How much money did Ken give to Lisa?

Before



$21 − $15 = $6

1 part = $6 ÷ 2
= $3

QUESTION 3

PSLE 2018 PAPER 2 Q5 (2 MARKS)

MEWAS
Statement
Answer
Working
Equation
Model

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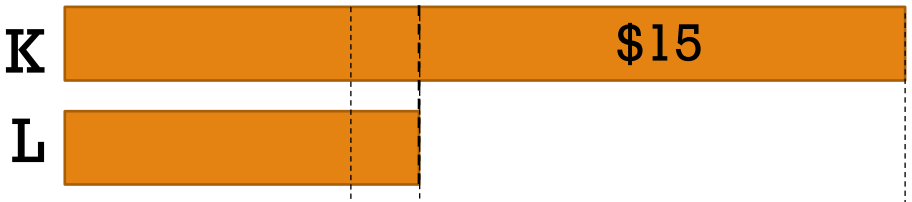
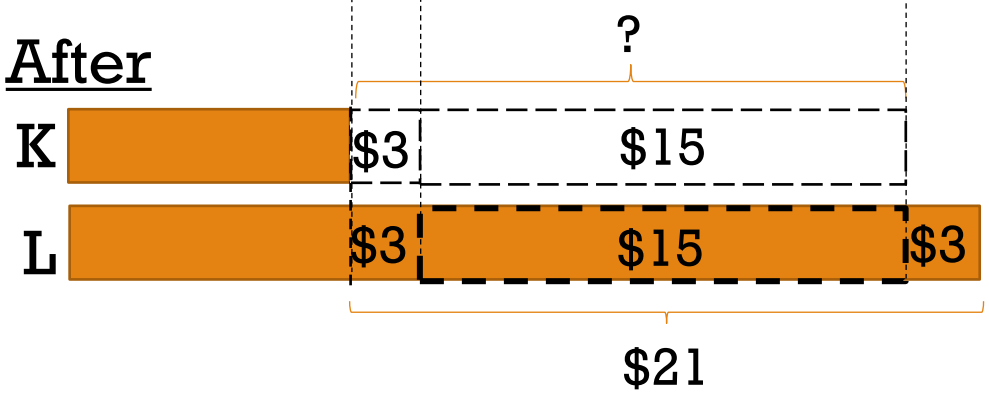


After



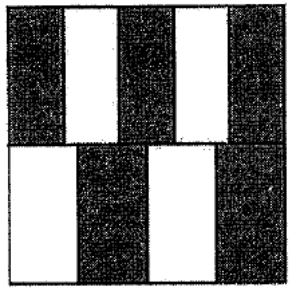
$3 + $15 = $18

Ken gave **$18** to Lisa.

QUESTION 4A

PSLE 2020 PAPER 2 Q5 (2 MARKS)

A square is first divided into two equal halves. The top half is divided into 5 equal parts while the bottom half is divided into 4 equal parts.



The total area of the shaded parts is 165 cm^2. What is the area of the square?

Read → Topic → Area (Measurements)

Identify keywords → Type of qns → Equivalent fractions

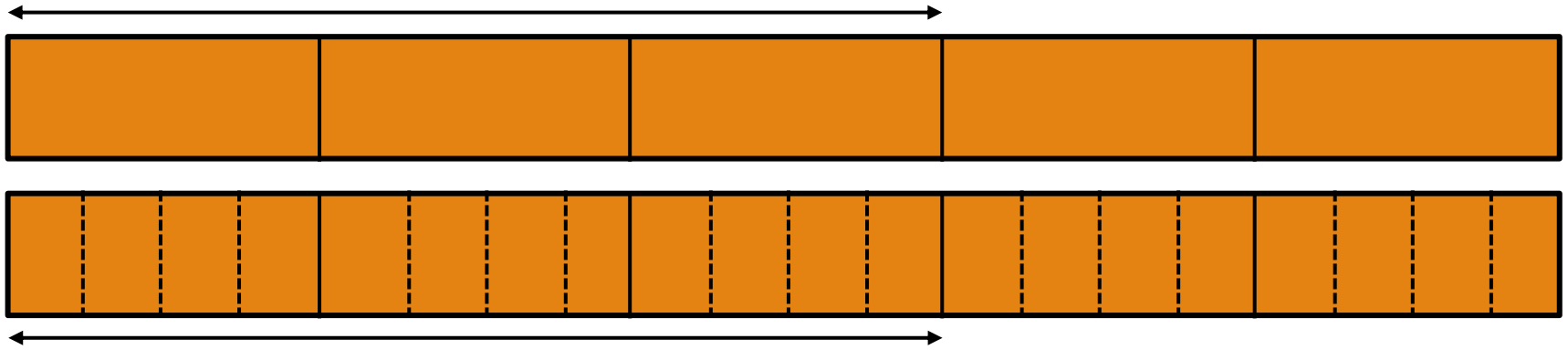
Get a plan → Heuristics → Model

QUESTION 4B

PRIMARY 3

Find the numerator of an equivalent fraction of $\frac{3}{5}$.

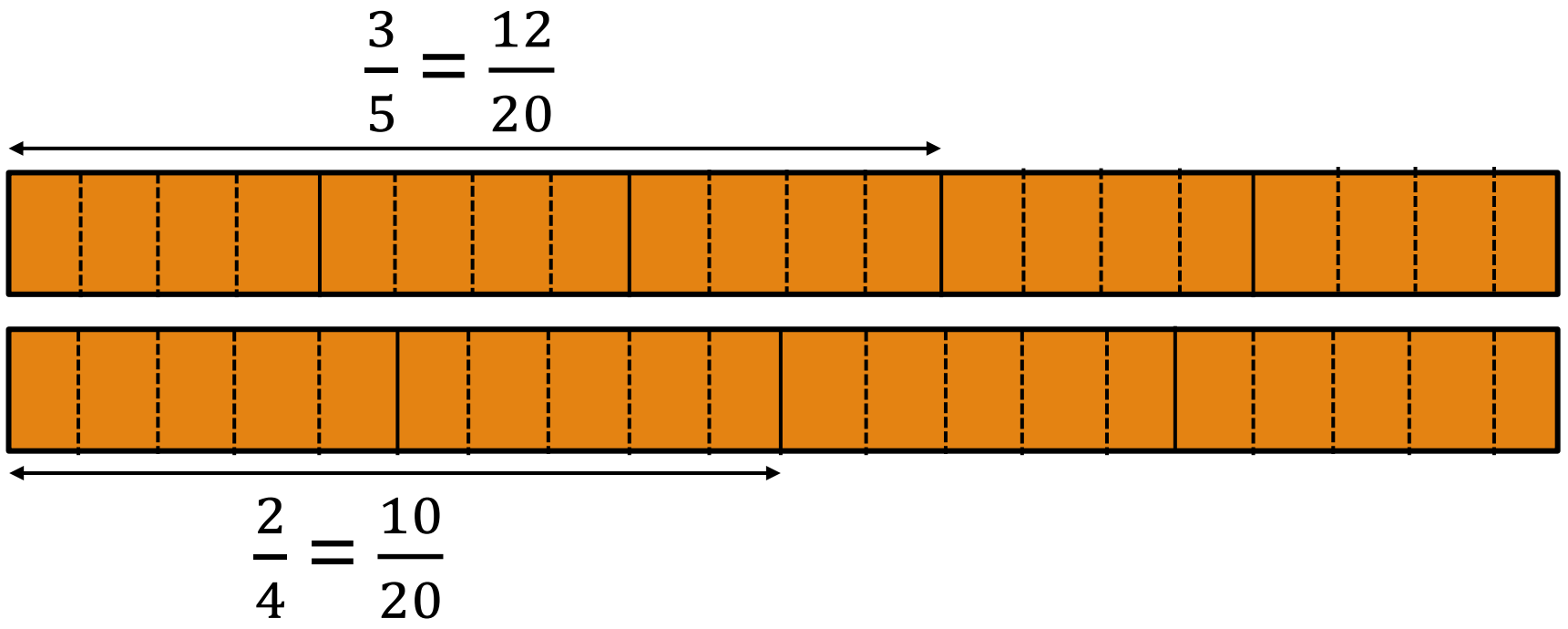
$$\frac{3}{5} = \frac{?}{20}$$



$$\frac{3}{5} = \frac{\mathbf{12}}{20}$$

QUESTION 4C PRIMARY 3

Compare $\frac{3}{5}$ and $\frac{2}{4}$.



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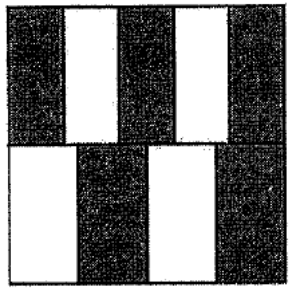

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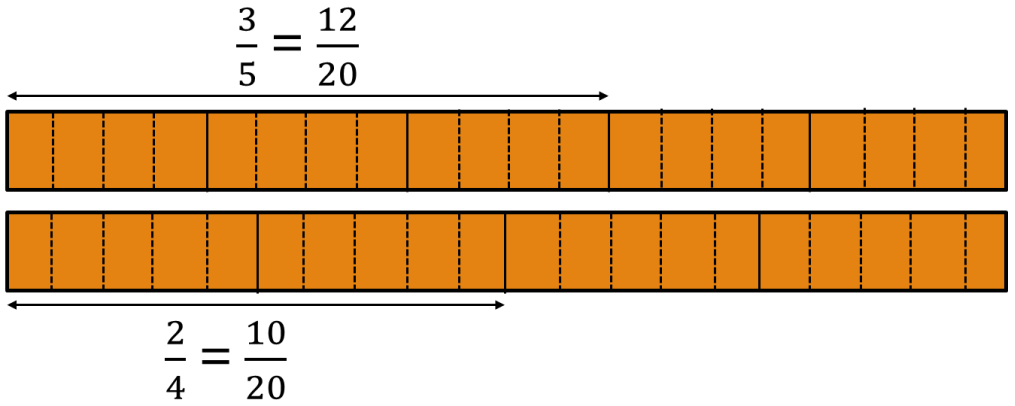


22u = 165

1u = 165 ÷ 22

= 7.5

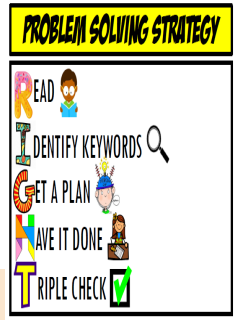
40u = 7.5 x 40

= 300

The area of the square is **300 cm^2**.

QUESTION 5A

PRIMARY 5 – PSLE 2022 PAPER 2 Q2 (2 MARKS)

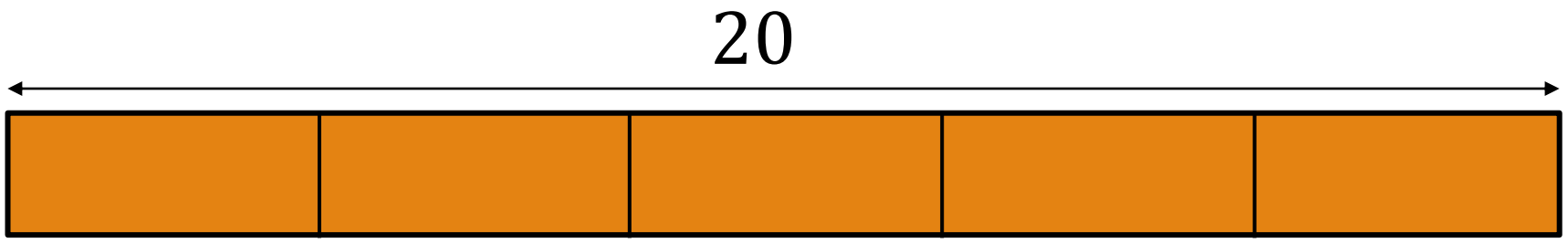


Mariam had caps for sale. In the morning, she sold $\frac{1}{3}$ of the caps. In the afternoon, she sold $\frac{1}{5}$ of the remaining caps. After that, there were 56 caps left. How many caps did Mariam have at first?

Read	Topic	Fractions
Identify keywords	Type of qns	Fraction of a set (remainder)
Get a plan	Heuristics	Model / Branching

QUESTION 5B PRIMARY 4

Find $\frac{3}{5}$ of 20.



$5u = 20$

$1u = 20 \div 5$

$= 4$

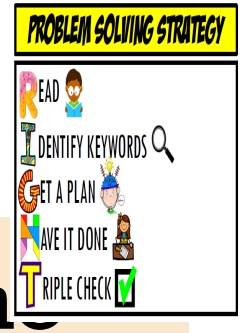
$3u = 3 \times 4$

$= 12$

$\frac{3}{5}$ of $20 =$ **12**

QUESTION 5A

PRIMARY 5 – PSLE 2022 PAPER 2 Q2 (2 MARKS)



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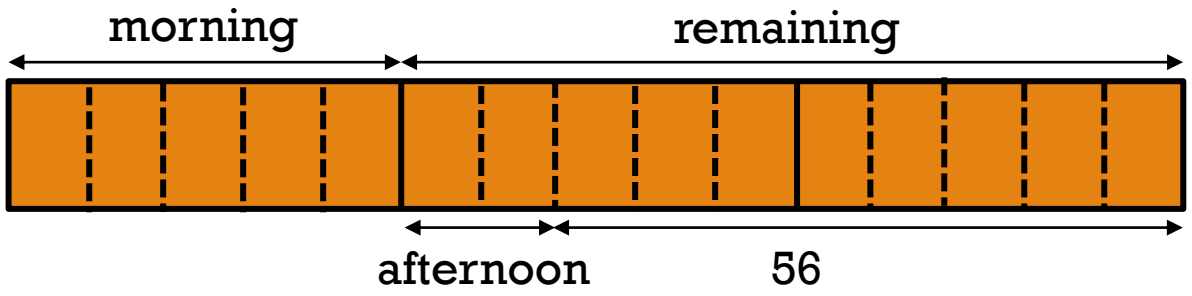
$\frac{1}{5} = \frac{2}{10}$



8u = 56

1u = 56 ÷ 8

= 7

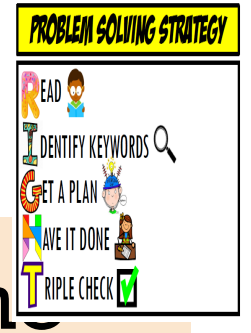
15u = 15 x 7

= 105

Mariam had **105** caps at first.

QUESTION 5A

PRIMARY 5 – PSLE 2022 PAPER 2 Q2 (2 MARKS)



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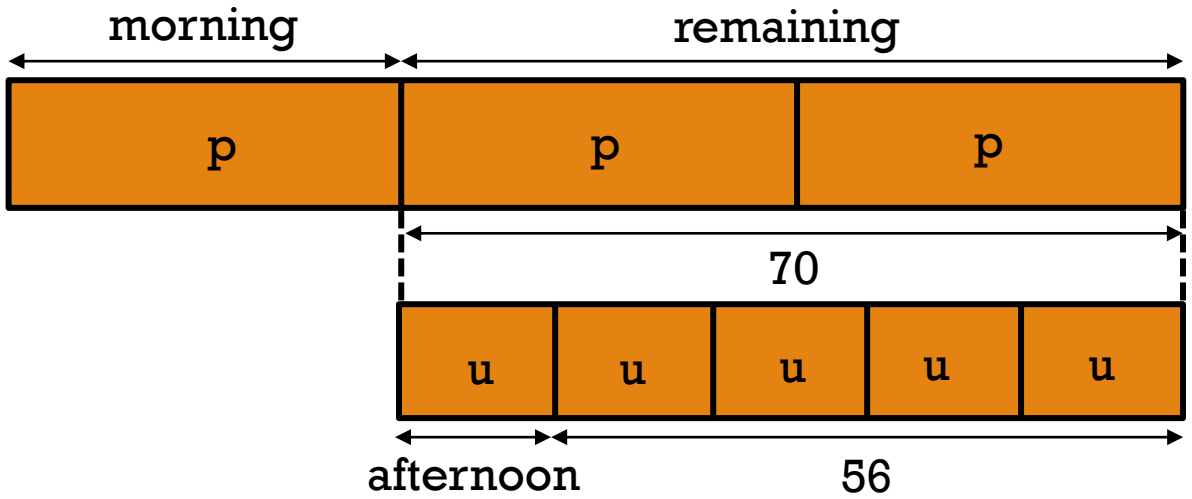


$4u = 56$

$1u = 56 \div 4$

$= 14$

$5u = 5 \times 14$

$= 70$

$2p = 70$

$1p = 70 \div 2$

$= 35$

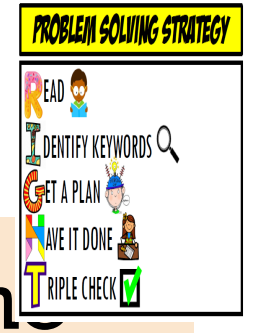
$3p = 3 \times 35$

$= 105$

Mariam had **105** caps at first.

QUESTION 5A

PRIMARY 5 – PSLE 2022 PAPER 2 Q2 (2 MARKS)



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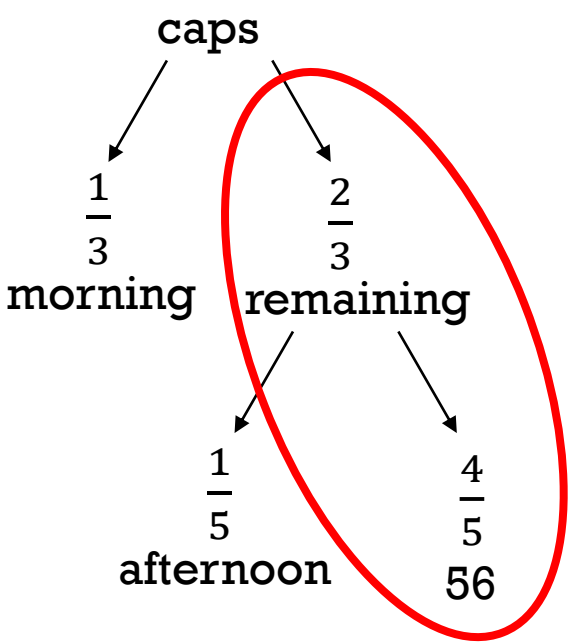


$\frac{4}{5} \times \frac{2}{3} = \frac{8}{15}$

$\frac{8}{15}$ of caps = 56

$\frac{1}{15}$ of caps = 56 ÷ 8

= 7

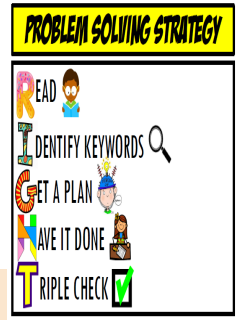
$\frac{15}{15}$ of caps = 15 x 7

= 105

Mariam had **105** caps at first.

QUESTION 6

PSLE 2017 PAPER 1 Q28 (2 MARKS)



A box contains red, blue and yellow beads. $\frac{1}{4}$ of the beads are red. $\frac{2}{9}$ of the remaining beads are blue. What fraction of the beads in the box are yellow?

Read	Topic	Fractions
Identify keywords	Type of qns	Fraction of a set (remainder)
Get a plan	Heuristics	Model / Branching

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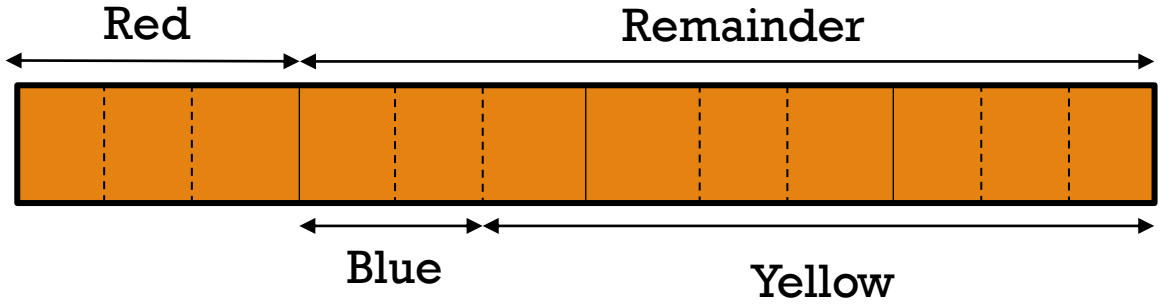
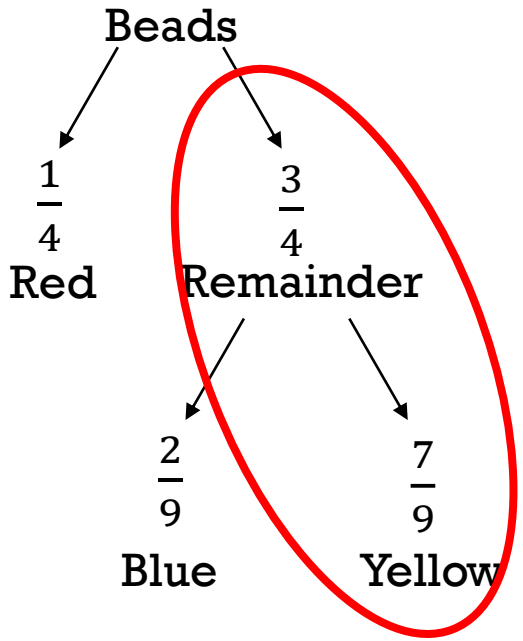
A box contains red, blue and yellow beads. $\frac{1}{4}$ of the beads are red. $\frac{2}{9}$ of the remaining beads are blue. What fraction of the beads in the box are yellow?



$\frac{7}{12}$ of the beads in the box are yellow.



$$\frac{7}{9} \times \frac{3}{4} = \frac{7}{12}$$

$\frac{7}{12}$ of the beads in the box are yellow.

QUESTION 7

PSLE 2020 PAPER 2 Q17 (5 MARKS)

Mrs Wu spent $\frac{1}{6}$ of her money on a dress and 2 blouses. The dress cost 3 times as much as each blouse. Mrs Wu spent $\frac{3}{4}$ of her remaining money on a watch. She spent $220.50 more on the watch than on the dress.

(a) What fraction of Mrs Wu's money was spent on each blouse?

(b) How much money did Mrs Wu have at first?

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QUESTION 7

PSLE 2020 PAPER 2 Q17 (5 MARKS)

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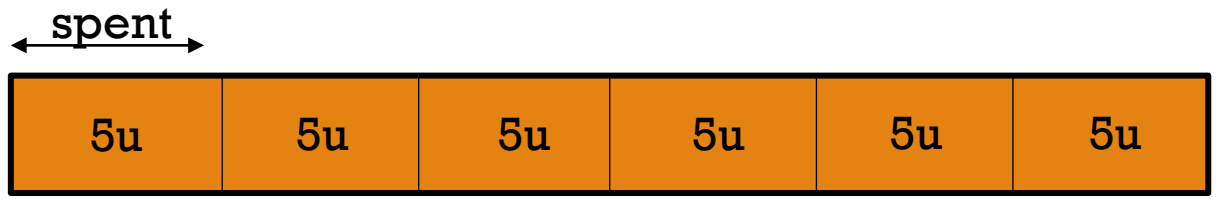
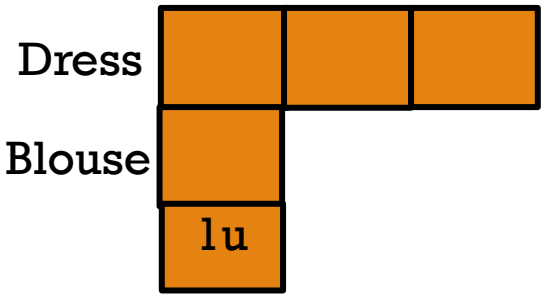
Read	→ Topic	→ Fractions / Money
Identify keywords	→ Type of qns	→ Fraction of a set (remainder)
Get a plan	→ Heuristics	→ Model / Branching

Mrs Wu spent $\frac{1}{6}$ of her money on a dress and 2 blouses. The dress cost 3 times as much as each blouse. Mrs Wu spent $\frac{3}{4}$ of her remaining money on a watch. She spent $220.50 more on the watch than on the dress.

(a) What fraction of Mrs Wu's money was spent on each blouse?

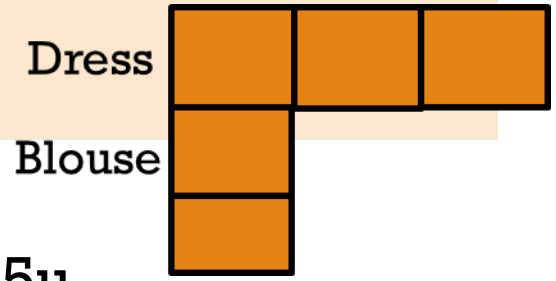


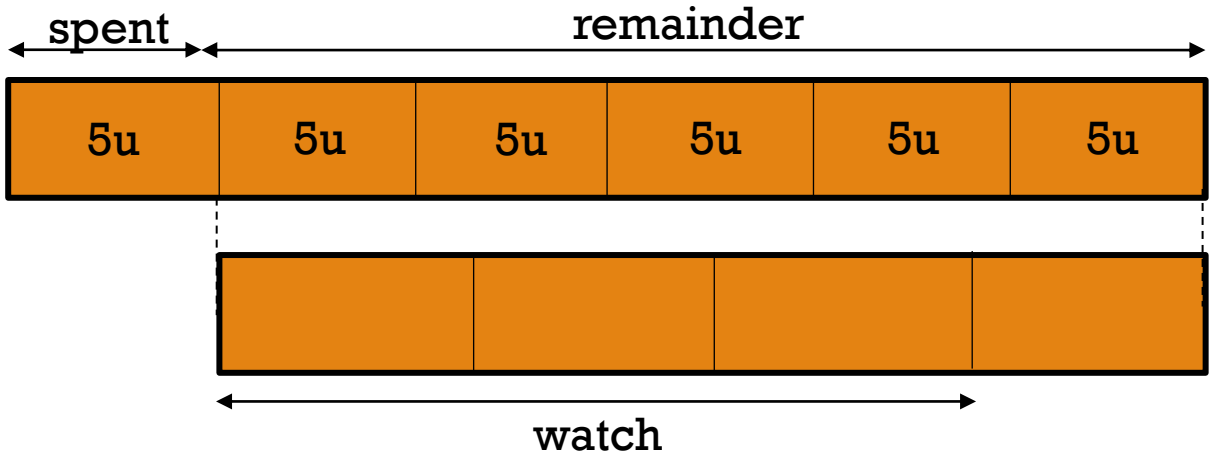


(a) $\frac{1}{30}$ of Mrs Wu's money was spent on each blouse.

Mrs Wu spent $\frac{1}{6}$ of her money on a dress and 2 blouses. The dress cost 3 times as much as each blouse. Mrs Wu spent $\frac{3}{4}$ of her remaining money on a watch. She spent $220.50 more on the watch than on the dress.

(b) How much money did Mrs Wu have at first?





(watch) $\frac{3}{4}$ x 25u = 18.75u

(diff btw watch & dress) 18.75u – 3u

= 15.75u

15.75u = $220.50

1u = $220.50 ÷ 15.75

= $14

30u = $14 x 30

= $420

(b) Mrs Wu had **$420** at first.

Mrs Wu spent $\frac{1}{6}$ of her money on a dress and 2 blouses. The dress cost 3 times as much as each blouse. Mrs Wu spent $\frac{3}{4}$ of her remaining money on a watch. She spent $220.50 more on the watch than on the dress.

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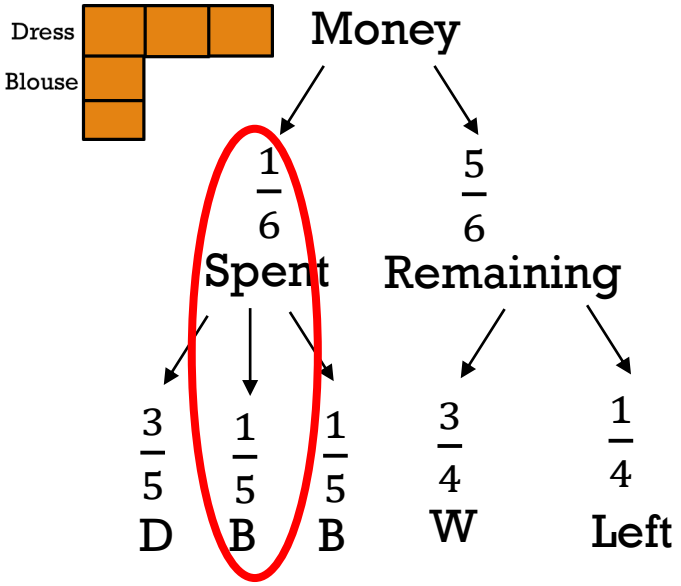
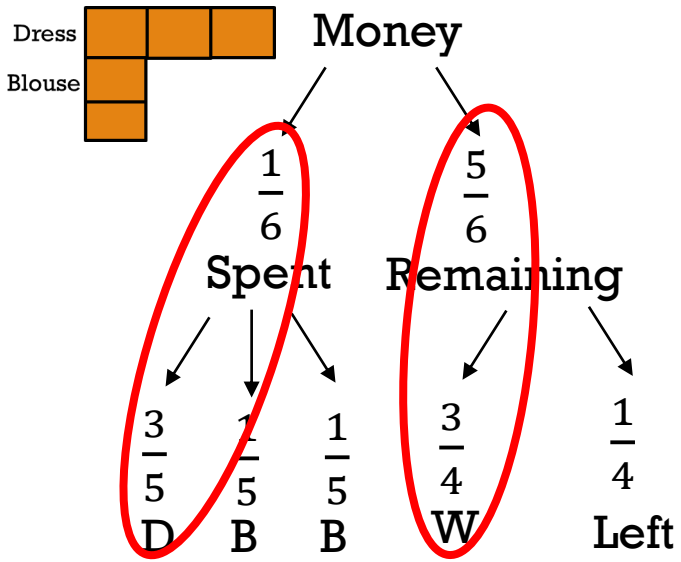


$$\frac{1}{5} \times \frac{1}{6} = \frac{1}{30}$$

(a) $\frac{1}{30}$ of Mrs Wu's money was spent on each blouse.

Mrs Wu spent $\frac{1}{6}$ of her money on a dress and 2 blouses. The dress cost 3 times as much as each blouse. Mrs Wu spent $\frac{3}{4}$ of her remaining money on a watch. She spent $220.50 more on the watch than on the dress.

(b) How much did Mrs Wu have at first?



(dress) $\frac{3}{5} \times \frac{1}{6} = \frac{1}{10}$

(watch) $\frac{3}{4} \times \frac{5}{6} = \frac{5}{8}$

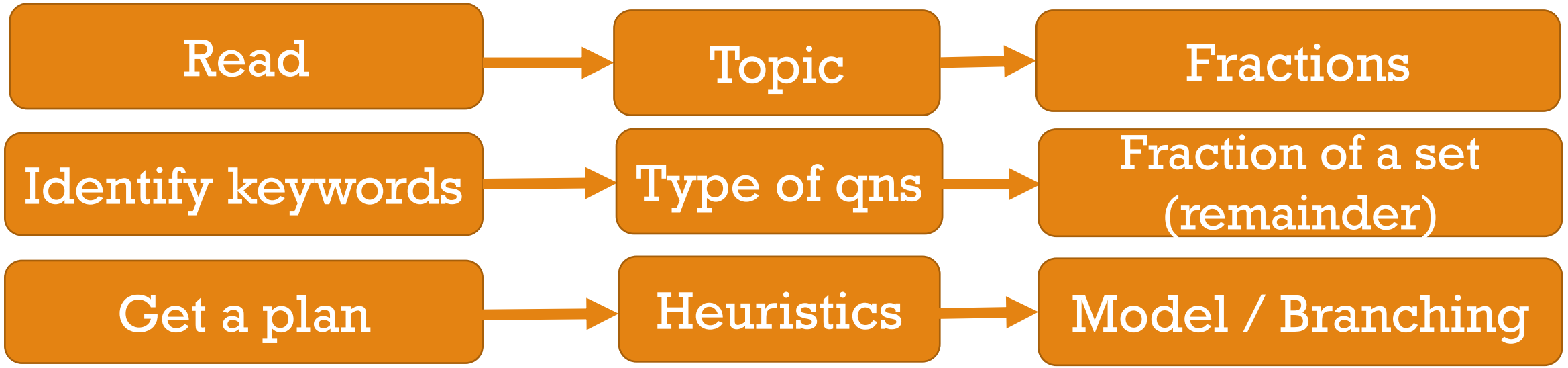
(diff btw watch & dress) $\frac{5}{8} - \frac{1}{10} = \frac{21}{40}$

$\frac{21}{40}$ of money = \$220.50

$\frac{1}{40}$ of money = \$220.50 ÷ 21 = \$10.50

$\frac{40}{40}$ of money = \$10.50 × 40 = \$420

(b) Mrs Wu had **\$420** at first.


Read
Topic
Fractions
Identify keywords
Type of qns
Fraction of a set (remainder)
Get a plan
Heuristics
Model / Branching

PROBLEM SOLVING STRATEGIES

READ 

IDENTIFY KEYWORDS

GET A PLAN 

HAVE IT DONE 

TRIPLE CHECK

MEWAS

odel quation orking nswer tatement

NTUC

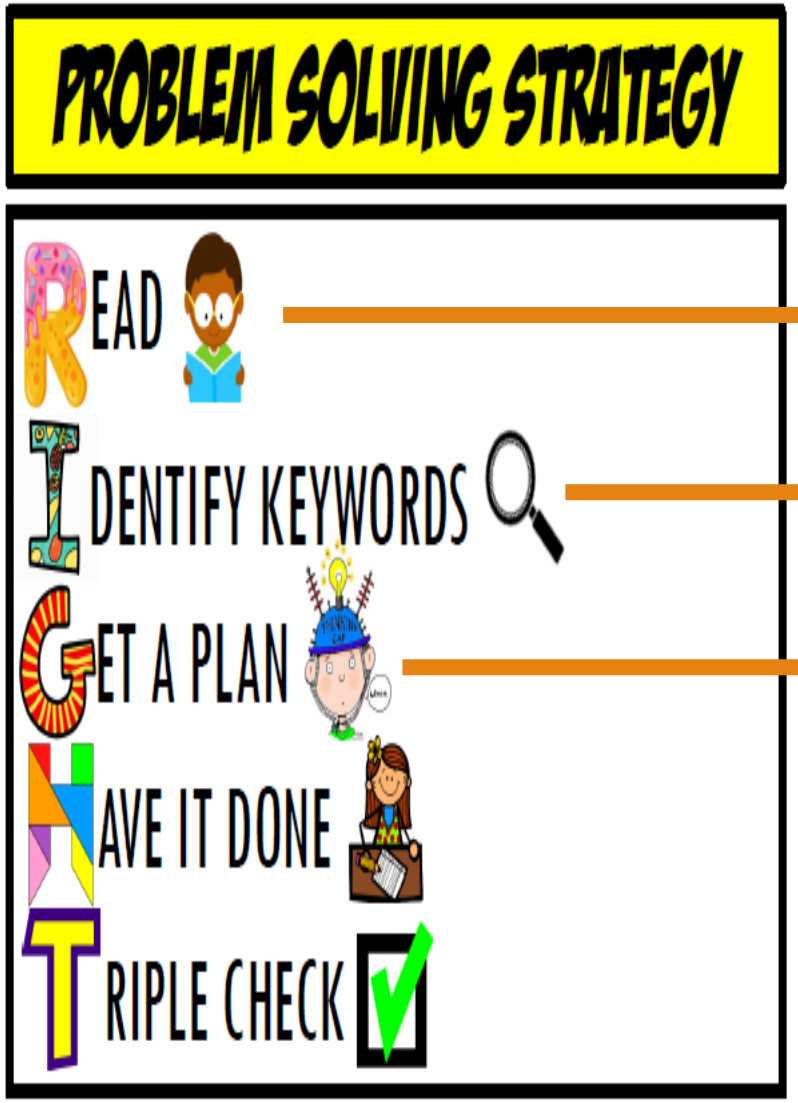
Number

Transfer

Units

Calculation

Inspiring Excellence
PALM VIEW PRIMARY



Topic

Type of question

Heuristics

Inspiring Excellence
PALM VIEW PRIMARY

Inspiring Excellence
PALM VIEW
PRIMARY