

Common Types of PSLE Math Questions

This page contains all the common types of PSLE Math questions and how to solve them.

Make sure you **Bookmark** this page as I will be updating this page with more types of PSLE Math questions.

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Before you read on, download this eBook for free to learn to solve all the Must-Know Math problem sums.

The 80 tricks taught in this eBook will be very useful in helping your child solve Math questions!

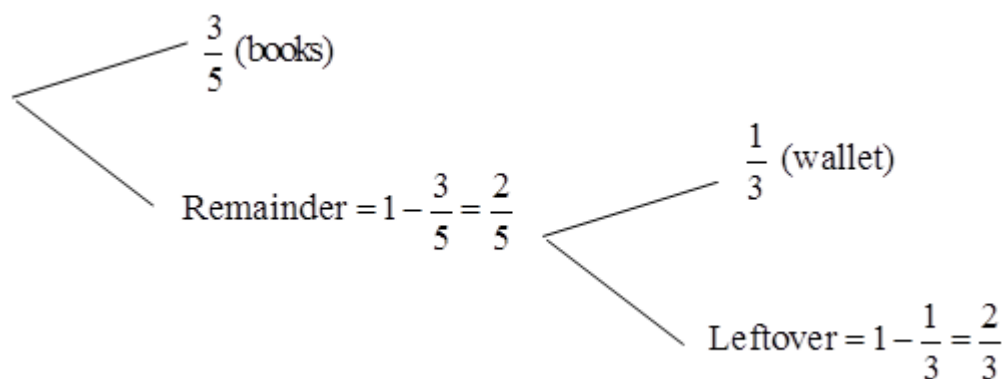
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(<https://jimmymaths.com/wp-content/uploads/2016/12/branching.png>)

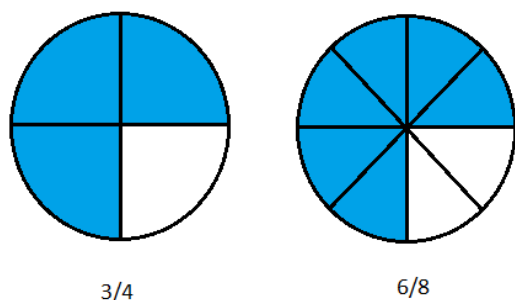
Fraction of Money Left = $\frac{2}{3} \times \frac{2}{5} = \frac{4}{15}$

4 units = \$16

15 units = $\$16 \div 4 \times 15 = \60 (Answer)

2. Equal Fractions Concept

I have seen this concept being tested so many times in PSLE Math and yet, so many students failed to identify or apply the concept correctly. In this concept, you basically need to make the numerator the same and compare the denominator.



([https://jimmymaths.com/wp-](https://jimmymaths.com/wp-content/uploads/2016/12/equal-fractions.png)

[content/uploads/2016/12/equal-fractions.png](https://jimmymaths.com/wp-content/uploads/2016/12/equal-fractions.png))

There are 836 students in a school. $\frac{7}{10}$ of the boys and $\frac{7}{8}$ of the girls take bus to school. The number of boys who do not take bus is **twice** the number of girls who do not take bus. How many girls do not take bus?

Step 1: Find the fractions of boys and girls who do not take bus

Boys $\rightarrow 1 - \frac{7}{10} = \frac{3}{10}$

Girls $\rightarrow 1 - \frac{7}{8} = \frac{1}{8}$
Translate »

Step 2: Compare the boys and girls who do not take bus

$\frac{3}{10}$ of boys = $2 \times \frac{1}{8}$ of girls (The number of boys who do not take bus is **twice** the number of girls who do not take bus)

$$\frac{3}{10} \text{ of boys} = \frac{1}{4} \text{ of girls}$$

Step 3: Make the numerators the same

$$\frac{1}{4} = \frac{3}{12}$$

Step 4: Compare the denominators

Boys : Girls

$$= 10 : 12 = 5 : 6$$

Step 5: Find the total number of units and equate it to the total boys and girls

$$5u + 6u = 11u$$

$$11u = 836$$

Step 6: Find 1 unit

$$1u = 76$$

Step 7: Find the total number of girls

$$6u = 456 \text{ (Total girls)}$$

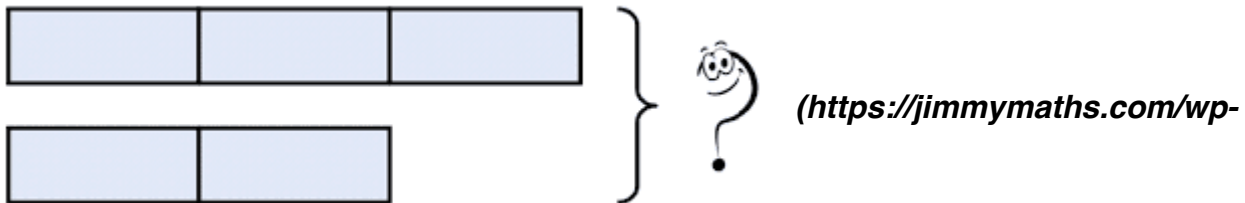
Step 8: Find the girls who do not take bus

$$\frac{1}{8} \times 456 = 57 \text{ girls (Answer)}$$

Translate »

3. More Than, Less Than, As Many As

Model drawing (<https://jimmymaths.com/singapore-math-model-method/>) is used extensively in Singapore Math. I recommend you to use this method when you see the word “more than”, “less than” or “as many as” in Whole Number or Fractions questions. Watch the video below to learn how to cut models to compare them easily.



content/uploads/2016/12/model-drawing.png)

James had 120 more marbles than Dan. After James lost $\frac{1}{5}$ of his marbles and Dan lost $\frac{3}{4}$ of his marbles, James had 184 more marbles than Dan. How many marbles did Dan have at first?

Click the video solutions below.

How to Solve Fractions Problem Sums Using Model



Translate »

4. Constant Part Concept

The next type of common PSLE Math questions is on Constant Part Concept which is commonly tested in **Ratio questions** (<https://jimmymaths.com/solutions-4-must-know-concepts-ratio/>).

The word “Constant” means remain the same. You need to identify the part which remain constant and make them equal in both ratios.



([https://jimmymaths.com/wp-content/uploads/2016/12/constant-](https://jimmymaths.com/wp-content/uploads/2016/12/constant-part.jpg)

[part.jpg](https://jimmymaths.com/wp-content/uploads/2016/12/constant-part.jpg))

Ali and Billy have money in the ratio of 5 : 6. After Billy spent \$16, the ratio became 3 : 2. How much money does Billy have in the end?

Step 1: Make the ratio for Ali the same

Before:

A : B

= 5 : 6

= 15 : 18

After:

A : B

= 3 : 2

= 15 : 10

Step 2: Find the difference between Billy's starting amount and ending amount

$$18u - 10u = 8u$$

Translate »

Step 3: Find 1 unit

$$8u = \$16$$

$$1u = \$2$$

Step 4: Find the amount for Billy in the end

$$10u = \$20 \text{ (Ans)}$$

4. Constant Total Concept

Under questions which involve “Internal Transfer”, the total remains the same. You can apply this concept when you see this type of PSLE Math questions.



([https://jimmymaths.com/wp-content/uploads/2016/12/constant-](https://jimmymaths.com/wp-content/uploads/2016/12/constant-total.jpg)

total.jpg)

Ali and Billy have money in the ratio of 5 : 4. After Ali gave Billy \$20, they have an equal amount of money. How much money does Billy have in the end?

Step 1: Make the total for Ali and Billy to be the same

Before:

A : B : Total

$$= 5 : 4 : 9$$

$$= 10 : 8 : 18$$

After:

A : B : Total

$$= 1 : 1 : 2$$

Translate »

$$= 9 : 9 : 18$$

Step 2: Find the difference between Ali's starting amount and ending amount

$$10u - 9u = 1u$$

Step 3: Find 1 unit

$$1 \text{ unit} = \$20$$

Step 4: Find Billy's amount in the end

$$9 \text{ units} = \$180 \text{ (Ans)}$$

4. Constant Difference Concept

For questions relating to age, the age difference between 2 people will always remain the same.



(<https://jimmymaths.com/wp-content/uploads/2016/12/constant-difference.jpg>)

The ages of Ali and Billy are in the ratio of 4 : 7. In 3 years' time, their ages will be in the ratio of 3 : 5. How old is Billy now?

Step 1: Make the difference for Ali and Billy the same

Before:

A : B : Difference

$$= 4 : 7 : 3$$

$$= 8 : 14 : 6$$

Translate »

After:

A : B : Difference

= 3 : 5 : 2

= 9 : 15 : 6

Step 2: Find the difference between Ali's starting age and final age

$$9u - 8u = 1u$$

Step 3: Find 1 unit

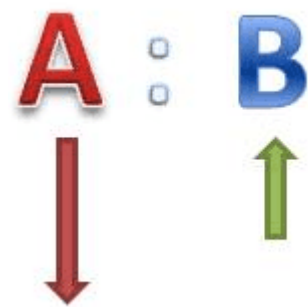
1 unit = 3 years

Step 4: Find Billy's age now

14 units = **42 years old** (Ans)

5. Everything Changed Concept (Units and Parts)

This is a more challenging type of PSLE Math questions. Both sides of the ratio changed by different amounts. I recommend "Units and Parts" to solve this type of questions.



(<https://jimmymaths.com/wp-content/uploads/2016/12/everything-changed.png>)

The ratio of Ali's money to Billy's money was 2 : 1. After Ali saved another \$60 and Billy spent \$150, the ratio became 4 : 1. How much money did Ali have at first?

Step 1: Write down the starting ratio and apply the changes.

A : B
Translate »

$$= 2u : 1u$$

$$+60 : -150$$

$$2u + 60 : 1u - 150$$

Step 2: Compare the final units with the final ratio.

$$A : B$$

$$= 2u + 60 : 1u - 150$$

$$= 4 : 1$$

Step 3: Cross multiply the final units with the final ratio

$$1 \times (2u + 60) = 4 \times (1u - 150)$$

$$2u + 60 = 4u - 600$$

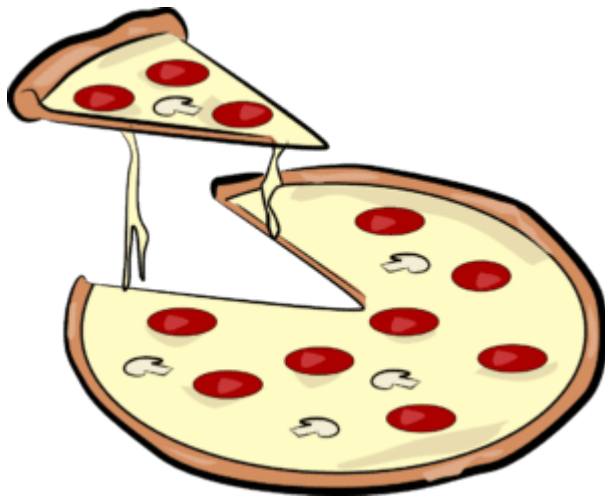
Step 4: Solve for 1 unit

$$4u - 2u = 600 + 60$$

$$2u = \$660 \text{ (Ans)}$$

6. Part-Whole Concept

This is another common type of PSLE Math questions which you need to be clear on the relationship between the “part” and the “whole”.



([https://jimmymaths.com/wp-content/uploads/2016/12/pizza-](https://jimmymaths.com/wp-content/uploads/2016/12/pizza-part-e1482212860904.png)

part-e1482212860904.png)

Kelly spent $\frac{1}{3}$ of her money on 5 pens and 11 erasers. The cost of each pen is 3 times the cost of each eraser. She bought some more pens with $\frac{3}{4}$ of her remaining money. How many pens did she buy altogether?

Step 1: Write down the ratio of the cost of pen : eraser

$$P : E = 3u : 1u$$

Step 2: Find the fraction spent on the extra pens

$$1 - \frac{1}{3} = \frac{2}{3} \text{ (Remainder)}$$

$$\frac{3}{4} \times \frac{2}{3} = \frac{1}{2} \text{ (Fraction spent on extra pens)}$$

Step 3: Find the total cost of 5 pens and 11 erasers

$$5 \times 3u + 11 \times u = 26u \text{ (Total cost of 5 pens and 11 erasers)}$$

Step 4: Find the total amount of money in terms of units

$$26u \times 3 = 78u \text{ (Total amount of money)}$$

Step 5: Find the total cost of the extra pens

$$\frac{1}{2} \times 78u = 39u \text{ (Total cost of extra pens)}$$

Translate »

Step 6: Find the number of extra pens

$$39u \div 3u = 13$$

Step 7: Find the total number of pens

$$13 + 5 = 18 \text{ pens (Answer)}$$

7. Excess and Shortage Concept

My students always tell me, “Mr Jimmy, this type of questions again!! It always come out in my exams and I always don’t know how to do!”

Thank goodness you have stumbled onto this website!! Learn the excess and shortage method below to tackle this type of questions.



Tom packed 5 balls into each bag and found that he had 8 balls left over. If he packed 7 balls into each bag, he would need another 4 more balls.

a) How many bags did he have?

b) How many balls did he have altogether?

Step 1: Find the difference in the number of balls in each bag

$$7 - 5 = 2$$

Translate »

Step 2: Find the total difference of the balls in the bags of 5 and bags of 8

$$8 + 4 = 12$$

Step 3: Find the total number of bags

$$12 \div 2 = 6 \text{ bags (Ans for a)}$$

Step 5: Find the total number of balls

$$6 \times 5 + 8 = 38$$

Or

$$6 \times 7 - 4 = 38 \text{ balls (Ans for b)}$$

7. Gap and Difference Concept

This type of PSLE Math questions requires you to find the difference and use it to solve the question.



Ali and John went on a trip together with the same amount of money. Ali spent \$8 everyday and John spent \$5 every day. Ali had \$12 in the end while John had \$24 in the end. How much did each person have at first?

Step 1: Find the difference in the end

$$\$24 - \$12 = \$12$$

Translate »

Step 2: Find the difference for each day

$$\$8 - \$5 = \$3$$

Step 3: Find the number of days

$$\$12 \div \$3 = 4$$

Step 4: Find the money each of them had at first

$$4 \times \$8 + \$12 = \$44$$

$$\text{or } 4 \times \$5 + \$24 = \$44 \text{ (Answer)}$$

8. Grouping Concept

This is another common concept which needs you to group items together, followed by finding the total number of groups.



(<https://jimmymaths.com/wp-content/uploads/2016/12/grouping.jpg>)

Mark bought an equal number of shorts and shirts for \$100. A shirt cost \$8 and each pair of shorts cost \$12. How much did he spend on the shirts?

Step 1: Group 1 shirt and 1 pair of shorts

$$8 + 12 = 20$$

Step 2: Find the number of groups

$$100 \div 20 = 5$$

Translate »

Step 3: Find the amount spent on the shirts

$$5 \times 8 = \$40 \text{ (Ans)}$$

9. Number x Value Concept

Under this concept, you multiply the number of units by the value of each unit to find the total value of 1 group. From here, you can find the total number of groups.



(<https://jimmymaths.com/wp-content/uploads/2016/12/number.jpg>)

The ratio of the number of 50 cents coins to 1 dollar coin is 3 : 1. The total value of the coins is \$12.50. How many coins are there in total?

Step 1: Write down the ratio of 50 cents : \$1

3 : 1

Step 2: Group three 50 cents coins and one \$1 coin into 1 group

$$3 \times 0.5 = \$1.50$$

$$1 \times 1 = \$1$$

Step 3: Find the total value of 1 group

$$\$1.50 + \$1 = \$2.50$$

Step 4: Find the number of groups

Translate »

$$12.50 \div 2.5 = 5$$

Step 5: Find the total number of coins

$$5 \times 4 = 20 \text{ coins (Ans)}$$

10. Guess and Check / Assumption Concept

Assumption method is taught in many schools and it is a much faster and efficient way to do compared to guess and check.



(<https://jimmymaths.com/wp-content/uploads/2016/12/assumption.jpg>)

Miss Lee bought some pencils for her class of 8 students. Each girl received 5 pencils and each boy received 2 pencils. She bought a total of 22 pencils. How many boys were there in the class?

Step 1: Start with an assumption (You can start with girls or boys).

Suppose there are 8 girls

Step 2: Find the total number of pencils

$$8 \times 5 = 40$$

Step 3: Change your assumption

Suppose there are 7 girls, 1 boy.

Step 4: Find the total number of pencils

$$7 \times 5 + 1 \times 2 = 37$$

Translate »

Step 5: Spot the pattern

$40 - 37 = 3$ (When the boys increase by 1, the total pencils decrease by 3)

Step 6: Find the total difference

$$40 - 22 = 18$$

Step 7: Find the number of boys

$$18 \div 3 = 6 \text{ boys (Ans)}$$

Check your answer!

$$\text{Number of girls} = 8 - 6 = 2$$

$$\text{Total pencils} = 2 \times 5 + 6 \times 2 = 22 \text{ (Correct)}$$

11. Working Backwards Concept

The next type of common PSLE Math questions is “Working Backwards”. In this question, you are given the final value and you need to work backwards to find the starting value.



(<https://jimmymaths.com/wp-content/uploads/2016/12/backwards.jpg>)

A bus left an interchange carrying some passengers with it.

At the first stop, $\frac{1}{4}$ of the people in it alighted and 5 people boarded it.

At the 2nd stop, $\frac{1}{2}$ of the people in it alighted and 20 people boarded the bus.

When it left the 2nd stop, there were 60 passengers in it.

How many passengers were there in the bus when it left the interchange?

Step 1: Find the number of people before the 2nd stop

$$60 - 20 = 40$$

Translate »

$$40 \times 2 = 80$$



Step 2: Find the number of people before the 1st stop

$$80 - 5 = 75$$

$$75 \div 3 \times 4 = 100 \text{ people (Ans)}$$

12. Simultaneous Equations Concept

In this type of PSLE Math questions, you need to form 2 equations to solve for 2 unknowns.

			Total
#	③	②	32
\$	②	③	28
	⑥	④	64 ^{x2}
	⑥	⑨	84 ^{x3}

⑤	↔	20
①	↔	4
②	↔	8 (Ans.)

Amy and Billy had a total of \$400. Amy spent $\frac{1}{4}$ of her sum and Billy spent $\frac{2}{5}$ of his. They then had a total of \$255 left. How much did Amy spend?

Step 1: Let Amy's money be 4 units, Billy's money be 5 parts

$$A \rightarrow 4u$$

$$B \rightarrow 5p$$

Step 2: Form a first equation using their total amount of money at first

$$4u + 5p = 400 \quad \text{(Equation 1)}$$

Step 3: Find the amount of money Amy and Billy have left

Translate »

$$A \rightarrow 4u - u = 3u$$

$$B \rightarrow 5p - 2p = 3p$$

Step 4: Form a second equation using their total amount of money left

$$3u + 3p = 255$$

Step 5: Simplify the second equation to make the number of units the same as the first equation

$$3u + 3p = 255$$

$$u + p = 85 \text{ (Divide every term by 3)}$$

$$4u + 4p = 340 \text{ (Multiply every term by 4)} \quad \textbf{(Equation 2)}$$

Step 6: Use the first equation minus the second equation to find 1 part

$$4u + 5p = 400$$

$$- (4u + 4p = 340)$$

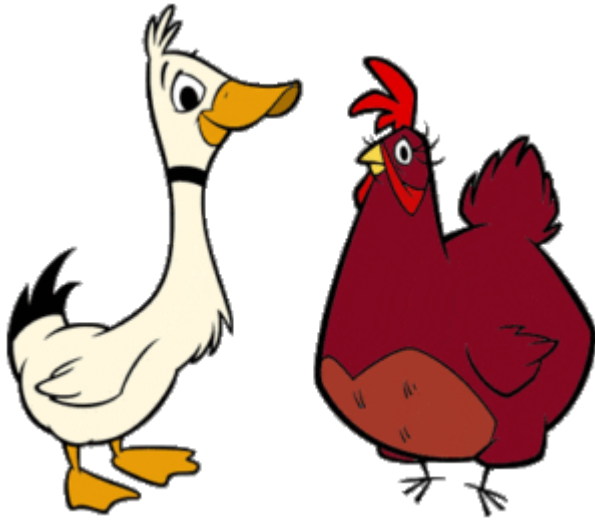
$$\rightarrow 1p = 400 - 340 = 60$$

Step 7: Find 1 unit

$$85 - 60 = \$25 \text{ (Ans)}$$

13. Double If Concept

This is another type of PSLE Math questions which most students get stuck in. It involves 2 “ifs” which represent 2 scenarios.



(<https://jimmymaths.com/wp-content/uploads/2016/12/double->

if.gif)

A farmer has some chickens and ducks. If he sells 2 chickens and 3 ducks every day, there will be 50 chickens left when all the ducks have been sold. If he sells 3 chickens and 2 ducks every day, there will be 25 chickens left when all the ducks have been sold.

- a) how many ducks are there?*
- b) how many chickens are there?*

Step 1: Write down the selling ratio for both cases

Case 1: Chicken : Duck = 2u : 3u

Case 2: Chicken : Duck = 3u : 2u

Step 2: Make the ratio of ducks to be the same as all the ducks are sold out in both cases.

Case 1 (Times 2 to both sides)

Chicken : Duck = 2u : 3u = 4u : 6u

Case 2 (Times 3 to both sides)

Chicken : Duck = 3u : 2u = 9u : 6u

Step 3: Form an equation using the chickens left

$$4u + 50 = 9u + 25$$

Translate »

Step 4: Find 1 unit

$$5u = 50 - 25$$

$$1u = 5$$

Step 5: Find the total ducks

$$5 \times 6 = 30 \text{ ducks}$$

Step 6: Find the total chickens

$$5 \times 4 + 50 = 70 \text{ chickens}$$

Or

$$5 \times 9 + 25 = 70 \text{ chickens}$$

14. Equal Stage

There can be equal stage at first or equal stage in the end. You can use the “Model Drawing” method to solve this question.

Below is the coins question from the PSLE 2021 paper involving Equal Stage.



Helen and Ivan had the same number of coins. Helen had some 50-cent coins and 64 20-cent coins.

Her coins had a total mass of 1.134 kg. Ivan had some 50-cent coins and 104 20-cent coins.

Translate »

- a) *Who had more money and how much more?*
- b) *Given that a 50-cent coin is 2.7 g heavier than a 20-cent coin, what is the mass of Ivan's coins in kilograms?*

Watch the video below on how to solve this question using Model Drawing.

PSLE 2021 Coins Question - Simplest Explanation Using Models #pslemath...



15. Interval

Questions involving intervals test your child on finding the number of gaps between the items.

Take note that the number of gaps is 1 less than the number of items.

For example, there is 1 gap between 2 trees, 2 gaps between 3 trees, 3 gaps between 4 trees etc.

Translate »



Timothy participated in a marathon. There were drinking stations equally spaced along the route. Timothy took 48 min to run from the 1st drinking station to the 13th drinking station. Which drinking station would he reach after running for 120 min since the start of the marathon?

Number of gaps between the 1st and the 13th drinking stations = 12

Time taken to run the distance between 2 adjacent drinking station

$$= 48 \div 12$$

$$= 4 \text{ min}$$

Number of gaps he would have run in 120 min

$$= 120 \div 4$$

$$= 30$$

$$30 + 1 = 31 \text{ (Ans)}$$

15. Repeated Identity

This is another important concept which your child needs to know for PSLE Math.

Repeated Identity involves one of the items being repeated in the question. Your child needs to identify it and use the Ratio method and make it the same.



([https://jimmymaths.com/wp-](https://jimmymaths.com/wp-content/uploads/2016/12/average.jpg)

[content/uploads/2016/12/average.jpg](https://jimmymaths.com/wp-content/uploads/2016/12/average.jpg))

The number of adults to the number of children in a room is 5 : 6. There are twice as many boys as girls in the room.

If there are 10 more adults than boys, how many people are there inside the room?

Adults : Children

= 5 : 6

Boys : Girls : Children

= 2 : 1 : 3

= 4 : 2 : 6 (Make the children the same)

$5u - 4u = 1u$

$1u = 10$

$11u = 110$ (Ans)

16. Replacement

This is a useful skill which your child can learn to apply.

It involves replacing one object with another object to solve the question.

Translate »



A school bus can either sit 24 adults or 36 children.

If it already has 12 adults on the bus, how many more children can it sit?

Adults : Children

= 24 : 36

= 2 : 3

= 12 : 18

By replacing the adults with children, there are 18 children on the bus.

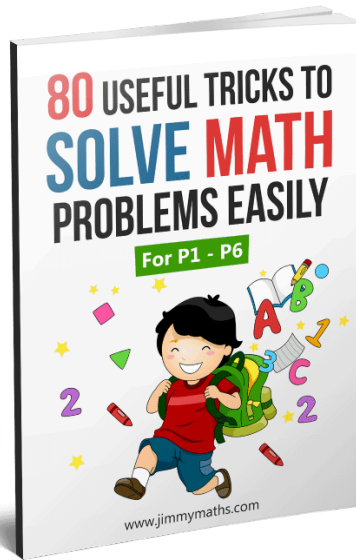
$36 - 18 = 18$ (Ans)

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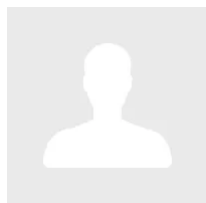


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