5 Multiplication and Division


Children, come and share these sticks of satay equally. How many sticks of satay will each of you get?
Chicken Satay
20 sticks
Chicken Satay
20 sticks

Division with Remainder

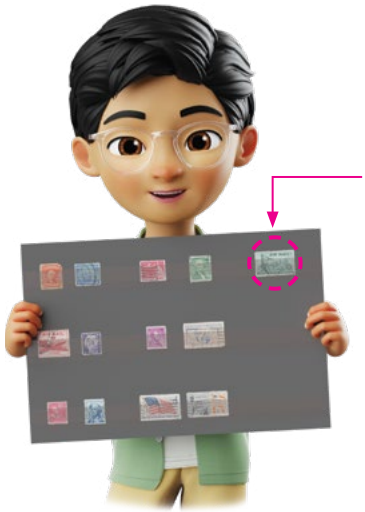
Let's Learn

1. Daniel has 12 stamps.
He puts them in groups of 2.
There are 6 groups of 2 stamps.

12 ÷ 2 = 6

12 is an **even number**.
There are no stamps left after putting them in groups of 2.

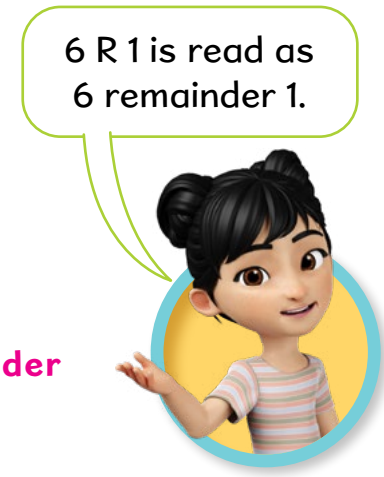
2. Hairul has 13 stamps.
He can make 6 groups of 2 stamps with 1 stamp left.



1 stamp left

13 ÷ 2 = 6 R 1

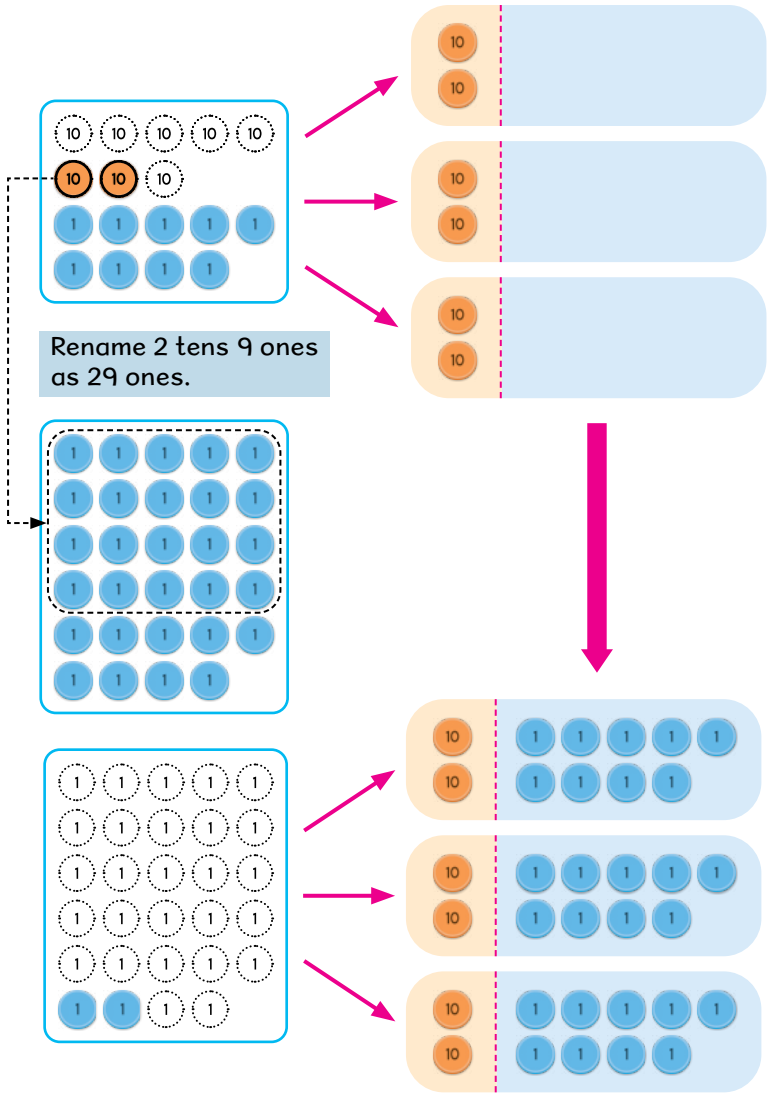
Quotient Remainder



In 13 ÷ 2 = 6 R 1, 6 is called the **quotient** and R stands for **remainder**.

13 is an **odd number**.
There is **1 stamp left as remainder** after putting the stamps in groups of 2.

3 Find the quotient and remainder when 89 is divided by 3.



Step 1

Divide 8 tens by 3.

	T	O	
	2		← 2 tens in each group
3)	8	9	
−	6		← 2 tens × 3 = 6 tens
	2	9	← 2 tens 9 ones = 29 ones

Step 2

Divide 29 ones by 3.

	T	O	
	2	9	← 9 ones in each group
3)	8	9	
−	6		
	2	9	
−	2	7	← 9 ones × 3 = 27 ones
		2	← Remainder

89 ÷ 3 = 29 R 2

There is a remainder when a whole number cannot be divided completely.

The **quotient is 29** and the **remainder is 2**.

You can work backwards to check.

29 × 3 = 87

87 + 2 = 89

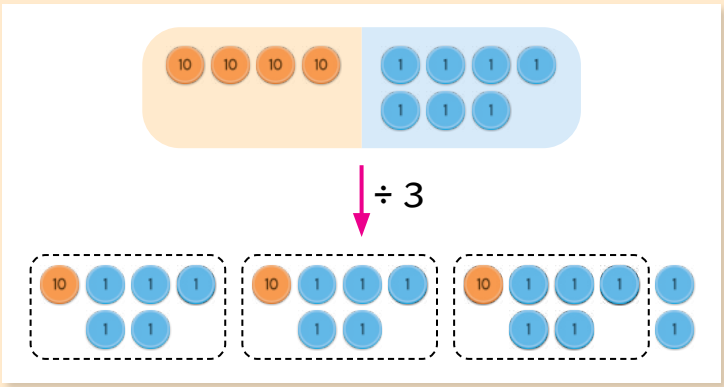
89 is the number you use to divide by 3.

Hands-on Activity

Work in groups. Your teacher will write some numbers to divide on the board. Use number discs to show the division.
Take turns to show the division steps.
Explain to your group members how you divide the numbers.

Example

Divide 47 by 3.



	T	O	
	1	5	← The quotient is 15.
3)	4	7	
−	3		
	1	7	
−	1	5	
		2	← The remainder is 2.

47 ÷ 3 = 15 R 2

Let's Practise

Divide.

(a) 95 ÷ 3

	T	O	
	☐	☐	← Quotient
3)	9	5	
	☐		
		☐	
		☐	
		☐	← Remainder

(b) 714 ÷ 5

	H	T	O	
	☐	☐	☐	← Quotient
5)	7	1	4	
	☐			
	☐	☐		
	☐	☐		
		☐	☐	
		☐	☐	
			☐	← Remainder

Go to PB 3A Practice 4

2-Step Word Problems

Let's Learn

1. Ravi bought 25 boxes of chocolates and each box cost $5.
He paid for the chocolates and had $35 left.
How much money did Ravi have at first?

1 box of chocolates cost $5.

25 × $5 = $125

$$\begin{array}{r} {}^{2}2\ 5 \\ \times\quad 5 \\ \hline 1\ 2\ 5 \end{array}$$

Ravi spent $125 on 25 boxes of chocolates.

$125 + $35 = $160

Ravi had **$160** at first.

2. A dinner celebration is held at a community centre.
There are 63 round tables with 8 chairs at each table.
There is 1 absentee at each table.
How many people are present for the dinner?

Method 1

$$\begin{array}{r} {}^{2}6\ 3 \\ \times\quad 8 \\ \hline 5\ 0\ 4 \end{array}$$

63 × 8 = 504

There are 504 chairs for 63 tables.
There is 1 absentee at each table.
So, there are 63 absentees altogether.

504 − 63 = 441

441 people are present for the dinner.

Method 2

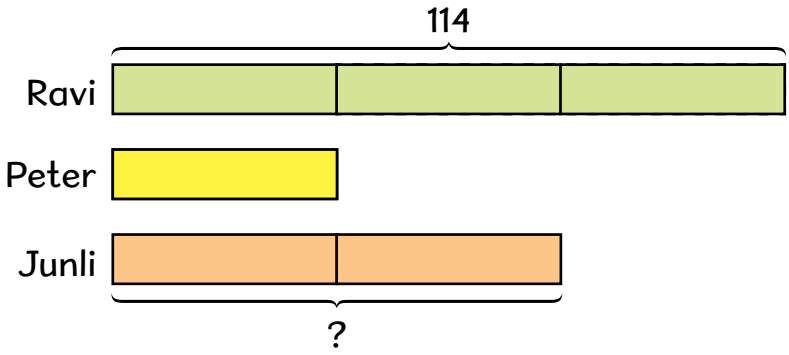
There are 7 people present at each table.

$$\begin{array}{r} {}^{2}6\ 3 \\ \times\quad 7 \\ \hline 4\ 4\ 1 \end{array}$$

63 × 7 = 441

441 people are present for the dinner.

3 Ravi has 114 marbles. He has 3 times as many marbles as Peter.
Junli has twice as many marbles as Peter.
How many marbles does Junli have?



114 ÷ 3 = 38

38 × 2 = 76

Junli has **76** marbles.

Maths Talk

Work in groups.
Create 2-step word problems using the words or models below.
Pass your word problems to another group to solve.

Set A

Ravi | How much | $492 | Peter | saves | 3 times | altogether

Set B

423 | divided equally | red buttons | each | How many | tins | 225

Let's Practise

Solve the word problems. You may draw models to help you.

1. Mr Ahmad bought 9 shirts for $48 each and a pair of trousers for $56.
   How much did he spend in all?

2. On a certain Saturday, Stall A sold 208 burgers and Stall B sold 3 times as many burgers as Stall A.
   Stall C sold 85 fewer burgers than Stall B.
   How many burgers did Stall C sell?

3. Janice collected $78 during the Lunar New Year.
   Peter collected twice as much as Janice.
   Huiling collected $68 more than Peter.
   How much money did Huiling collect?

4. Mr Kumar paid $1653 for 3 identical handphones and a computer tablet.
   The computer tablet cost $780.
   How much did each handphone cost?

5. There are 6 crates containing 125 oranges each.
   Mrs Tay packs the oranges into bags of 8 oranges.
   How many oranges are left over?

Go to PB 3A Practice 5

Maths Talk

Work in groups.
Look how Ravi does the division for 74 ÷ 3.

$$\begin{array}{r} 2\ 1 \\ 3\overline{)\ 7\ 4} \\ -\ 6\ 3 \\ \hline 1\ 1 \end{array}$$

Has he done it correctly?
If not, discuss with your group the correct way to divide the numbers.

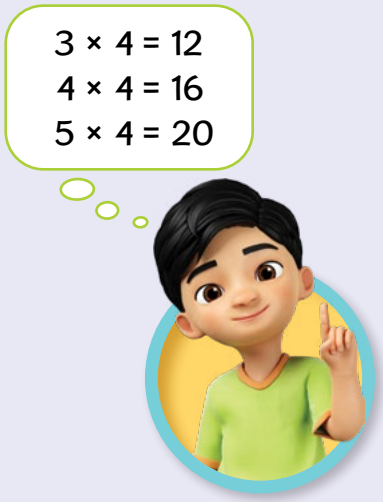
Mathematics AROUND US

Food items are usually packed in certain fixed quantities.

Thinking Aloud

Jayden had more than 15 sweets but fewer than 20 sweets.
He gave 4 sweets to each friend.
He had 2 sweets left.
How many sweets did Jayden have at first?

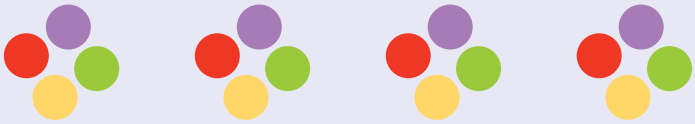
What do you know?
Jayden had **more than 15** sweets.
He had **fewer than 20** sweets.
Each friend received **4** sweets.



Can he give his sweets to 4 friends?
Can he give his sweets to 5 friends?

Act It Out

Use counters to represent the sweets.
Show that each of the 4 friends gets 4 sweets.



☐ ○ ☐ = ☐

He gave ☐ sweets to ☐ friends.

As there are 2 sweets left, we add 2 more sweets.

☐ ○ ☐ = ☐

Jayden had ☐ sweets at first.

What Have I Learnt?

1. Multiplication.

143 × 4 = 572

	H	T	O
	1	4	3
×			4
	5	7	2

2. Division without remainder.

538 ÷ 2 = 269

	H	T	O
	2	6	9
2)	5	3	8
−	4		
	1	3	
−	1	2	
		1	8
−		1	8
			0

3. Division with remainder.

51 ÷ 4 = 12 R 3

	T	O	
	1	2	R 3
4)	5	1	
−	4		
	1	1	
−		8	
		3	

4. Quotient and remainder.

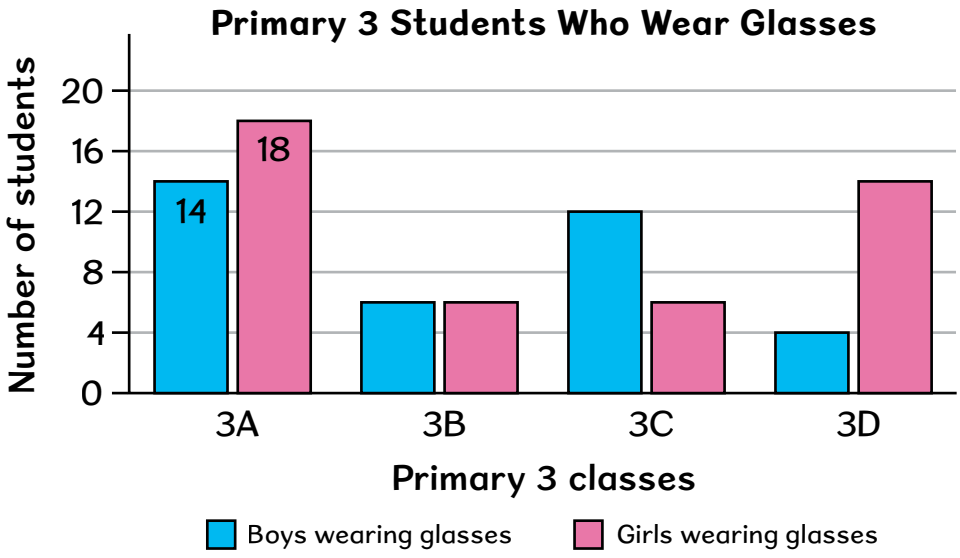
9 ÷ 5 = 1 R 4

1 is the **quotient**.
4 is the **remainder**.

Clustered Bar Graphs

Let's Learn

Clustered bar graphs have bars that are grouped side-by-side within each category.



The classes, 3A, 3B, 3C and 3D, are the **main categories**.

"Boys wearing glasses" and "Girls wearing glasses" are the **sub-categories**.

(a) In 3A, there are 32 students in total who wear glasses. 14 of them are boys and 18 of them are girls.

(b) 3B has the **same number** of boys and girls who wear glasses.

(c) 3C has **more** boys than girls who wear glasses.

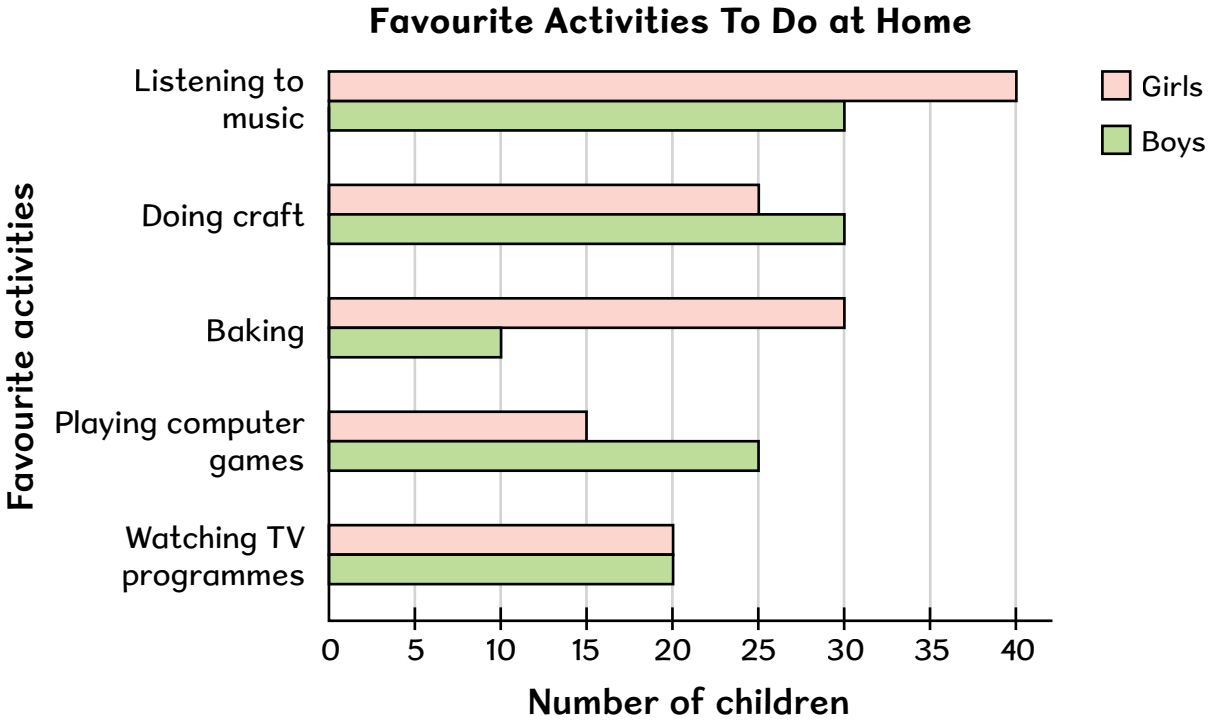
(d) 3B and 3C have the **same number** of girls who wear glasses.

(e) 3A has the **greatest number** of girls in a class who wear glasses.

(f) Among Primary 3 students, 3D has the **fewest number** of boys who wear glasses.

Let's Practise

1 The bar graph shows some children's favourite activities to do at home.



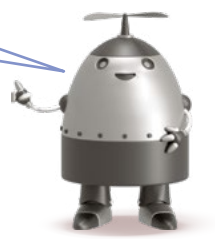
(a) Which activity has the same number of boys and girls liking the activity? _____

(b) Which activities are liked by more boys than girls? _____ and _____

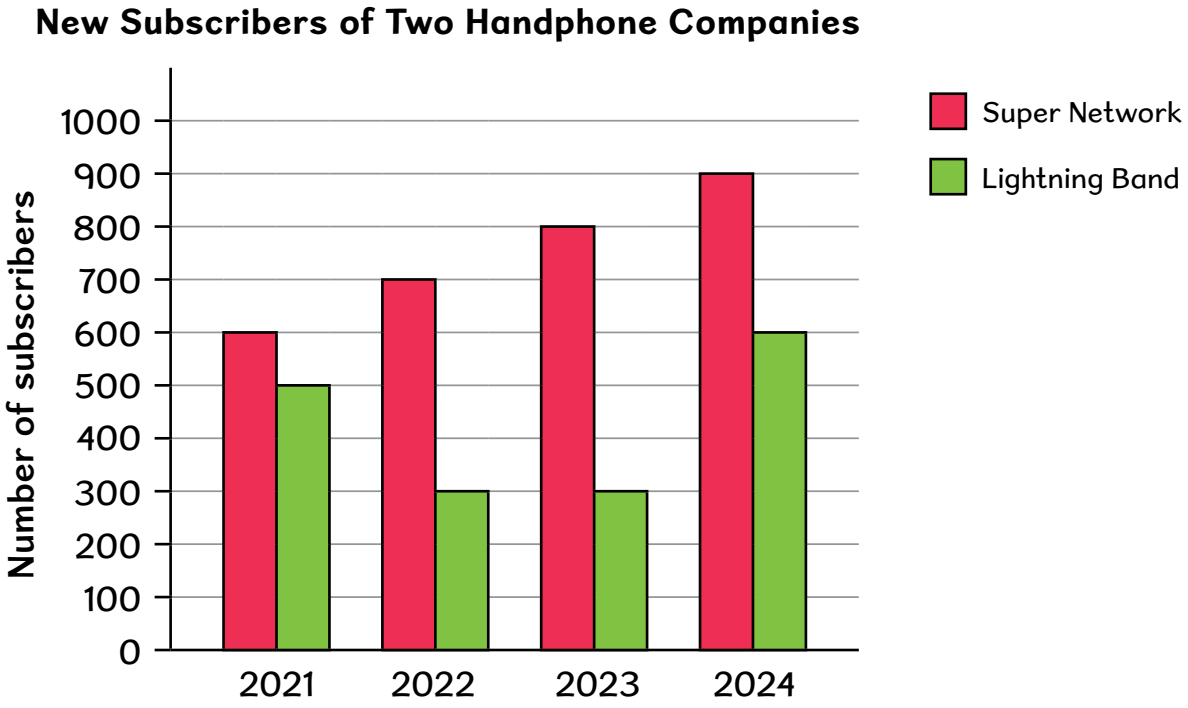
(c) How many more girls than boys like to bake? _____

(d) How many fewer girls than boys like to do craft? _____

(e) How many children like to listen to music? _____



2 The bar graph shows the number of subscribers who signed up with two handphone companies, Lightning Band and Super Network, over a 4-year period.



(a) Which handphone company had more new subscribers over the 4 years? _____

(b) What was the difference in the number of new subscribers between the two companies in 2023? _____

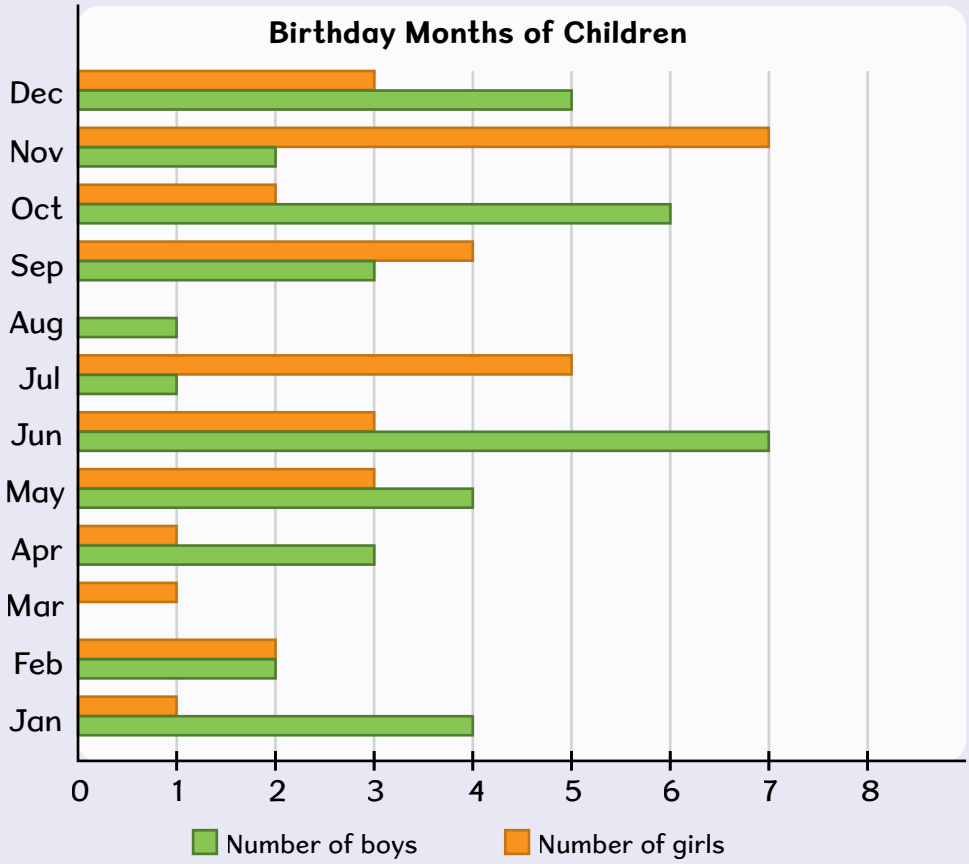
(c) In which year was the difference in the number of new subscribers between the two companies the smallest? _____

What is the difference in number? _____

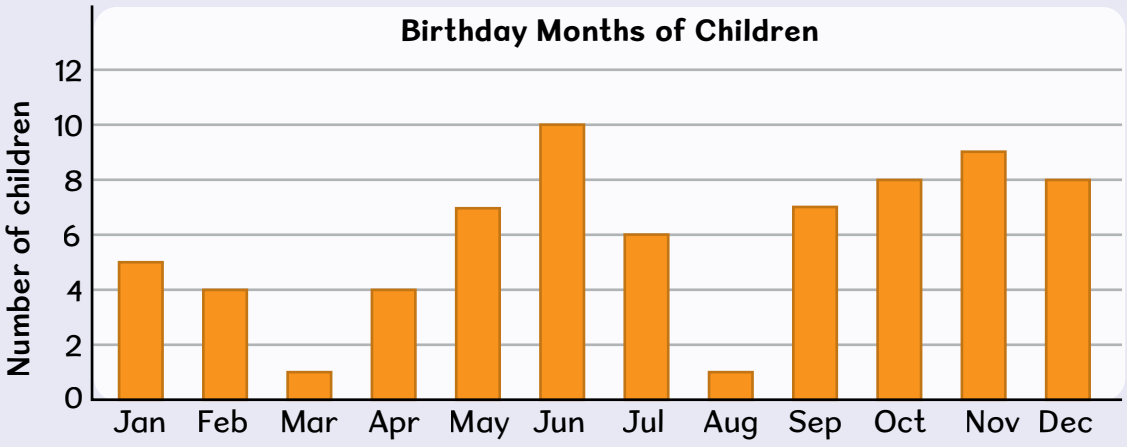
Thinking Aloud

The two graphs below show the birthday months of a same group of children.

Graph 1



Graph 2



(a) How are Graph 1 and Graph 2 different?

(b) How are Graph 1 and Graph 2 related?