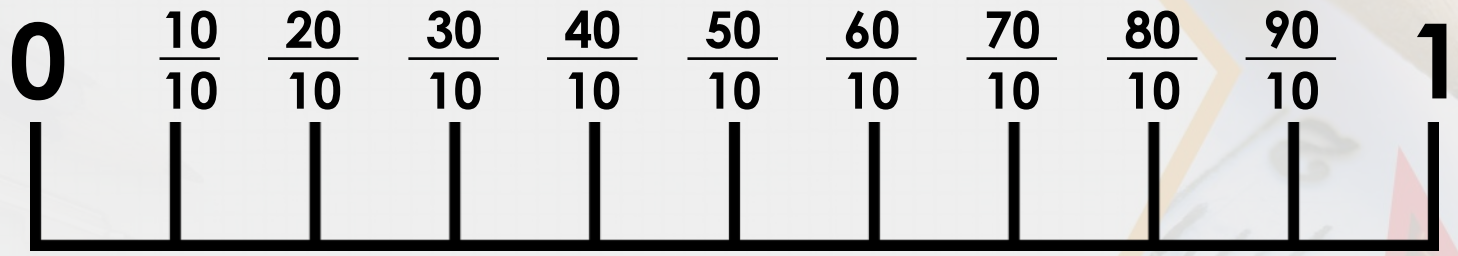
Monday

Step 6: Fractions on a Number Line

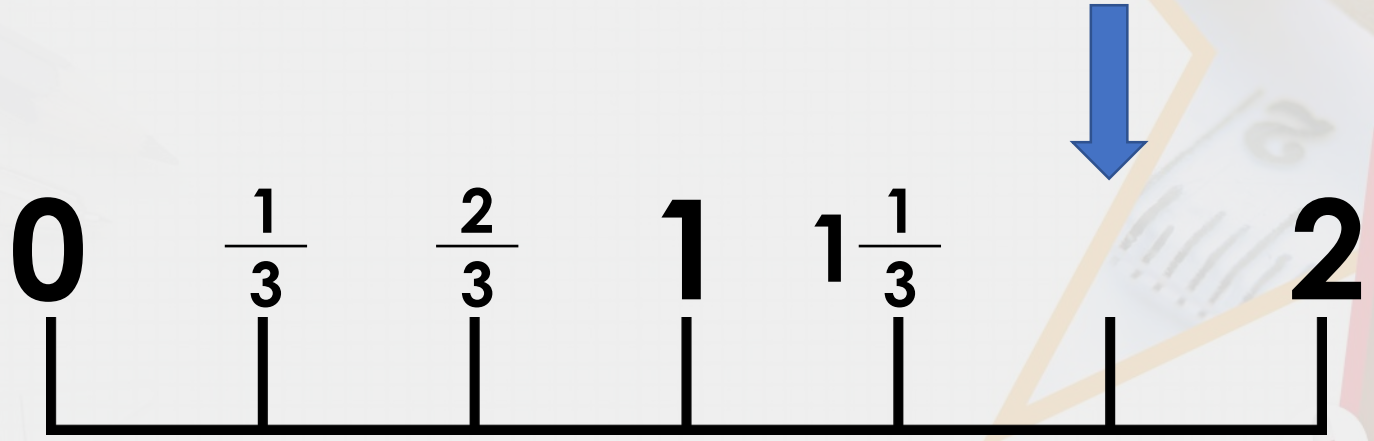
Introduction

Has Surinder written the fractions on this number line correctly?



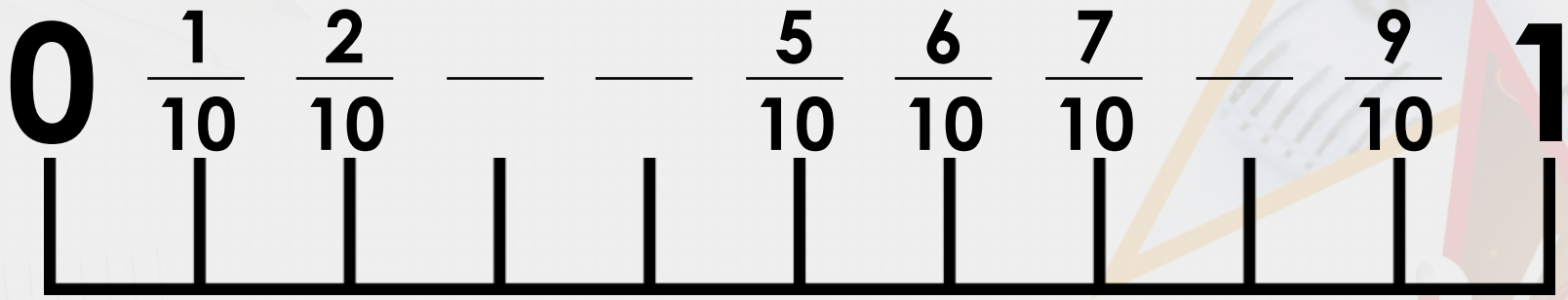
Varied Fluency 1

What fraction is the arrow pointing to on this number line?



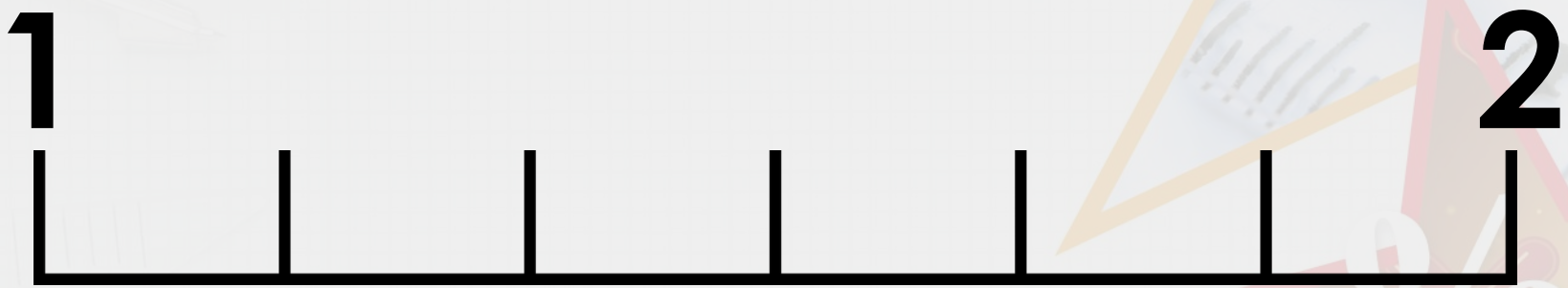
Varied Fluency 2

Write the fractions in the gaps on the number line.



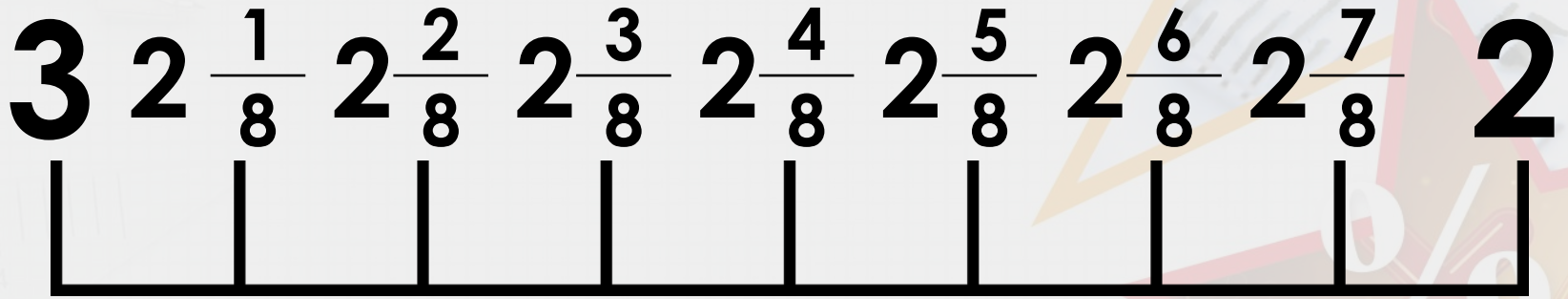
Varied Fluency 3

Mark $1\frac{4}{6}$ on the number line.



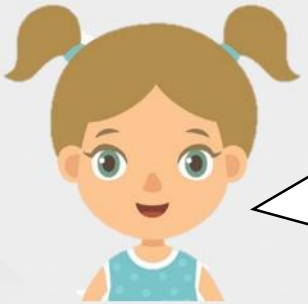
Varied Fluency 4

True or false? The fractions on this number line are correct.



Reasoning 1

Danielle says,

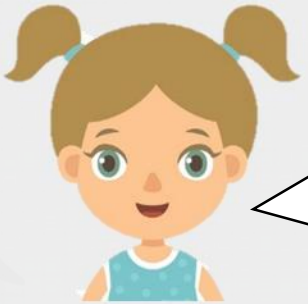


If I start on $1\frac{2}{5}$ and count on 7 more fifths, I will end up on 3.

Draw a number line to work out if she is correct. Explain your answer.

Reasoning 1

Danielle says,



If I start on $1\frac{2}{5}$ and count on 7 more fifths, I will end up on 3.

Draw a number line to work out if she is correct. Explain your answer.

No, Danielle is incorrect because…

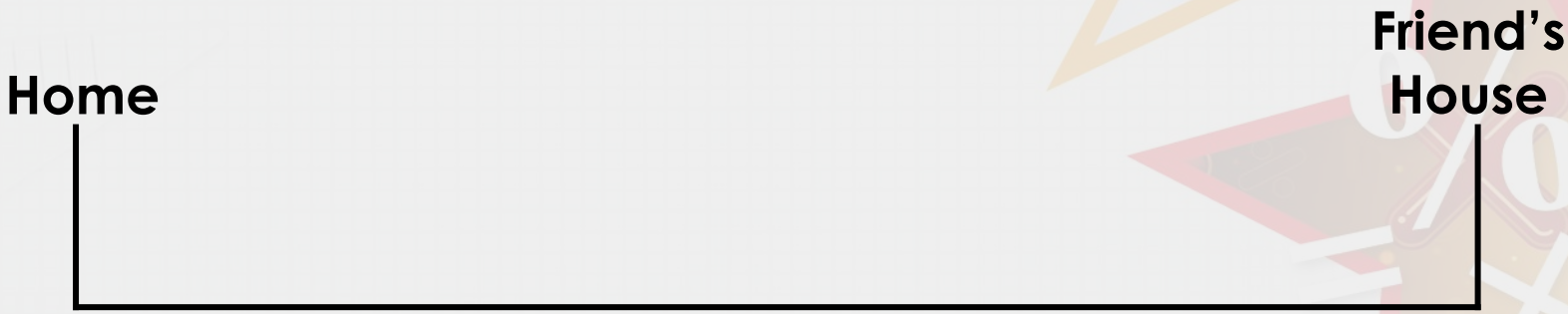
Problem Solving 1

Aleksander walks to his friend's house.

He rests when he is $\frac{3}{7}$ of the way there.

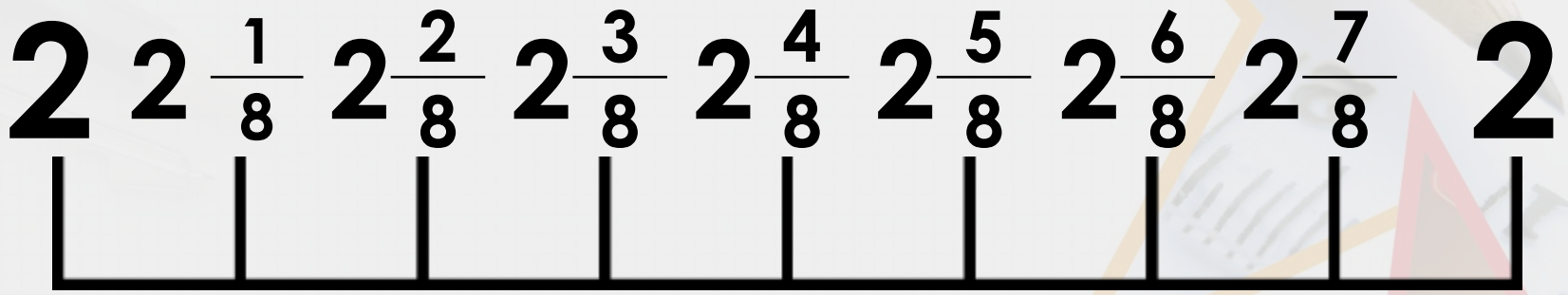
At $\frac{6}{7}$ of the way there, he stops at the shop to buy a drink.

Show Aleksander's journey on the blank number line.



Reasoning 2

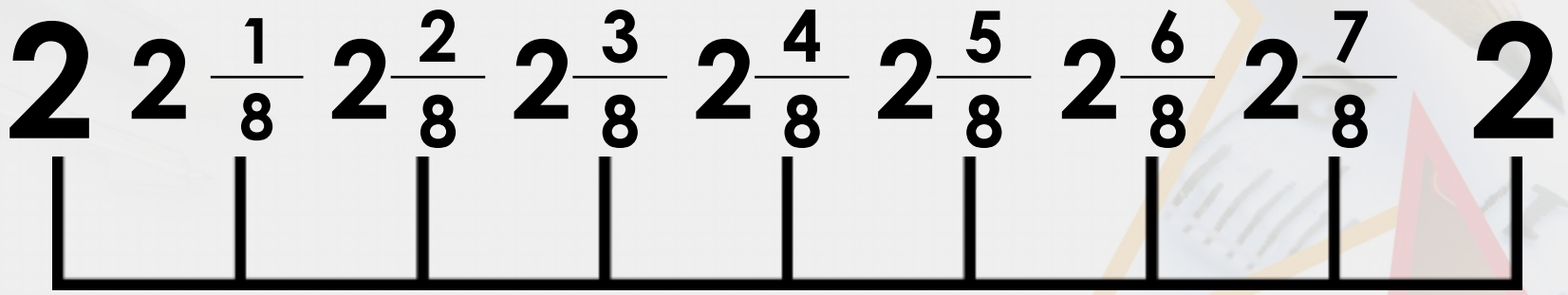
Fatima thinks she has labelled this number line correctly.



Is she correct? Explain how you know.

Reasoning 2

Fatima thinks she has labelled this number line correctly.

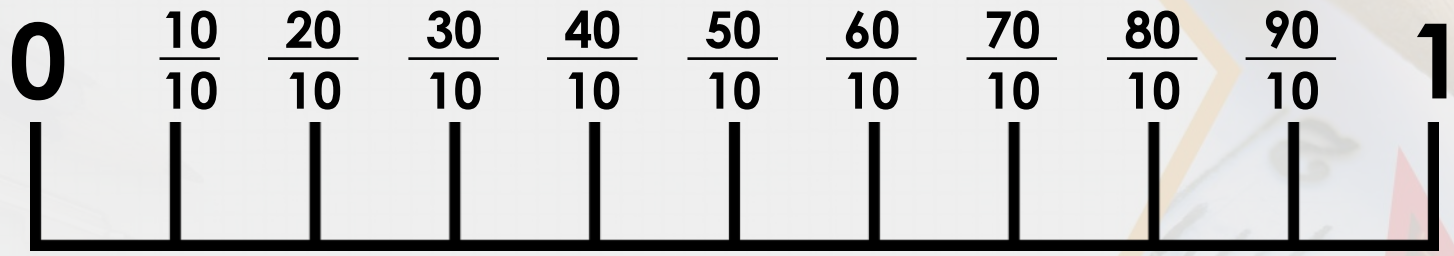


Is she correct? Explain how you know.

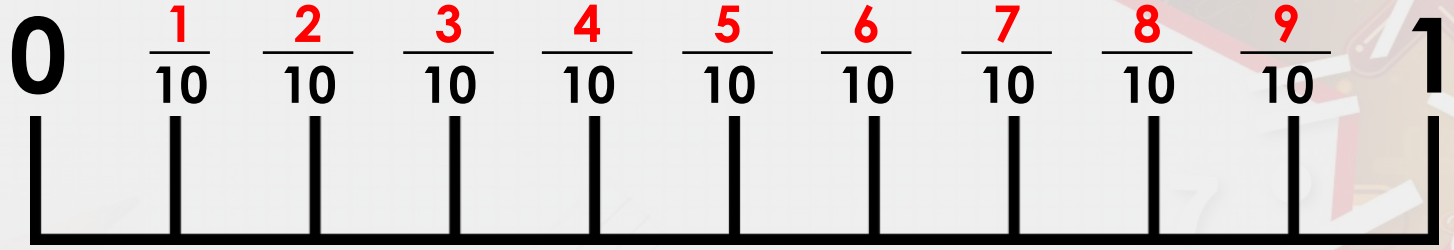
She is incorrect because…

Introduction

Has Surinder written the fractions on this number line correctly?

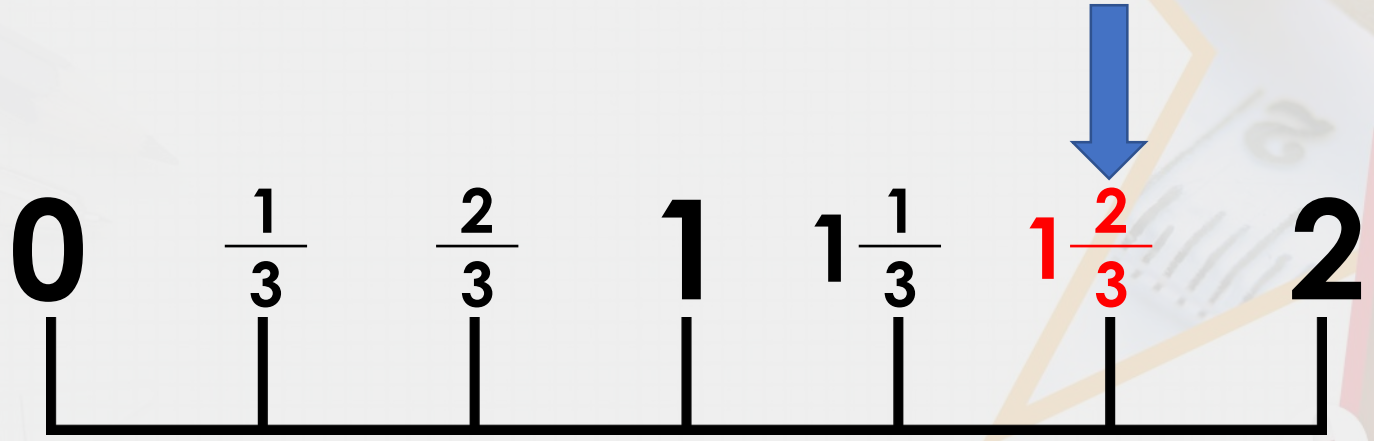


No he hasn't. The number line should look like this.



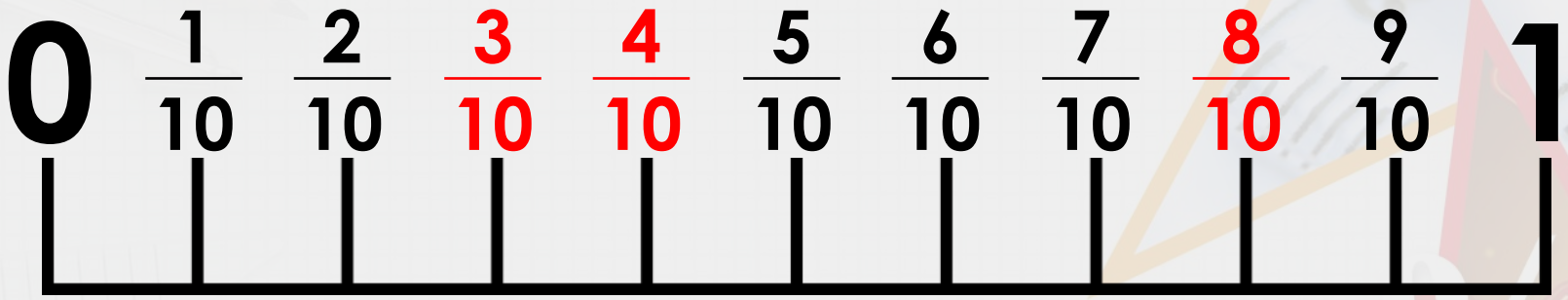
Varied Fluency 1

What fraction is the arrow pointing to on this number line?



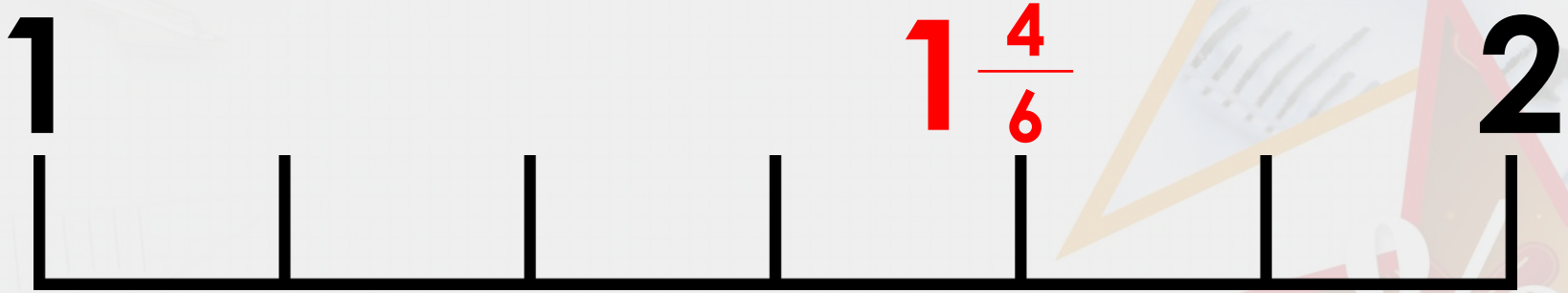
Varied Fluency 2

Write the fractions in the gaps on the number line.



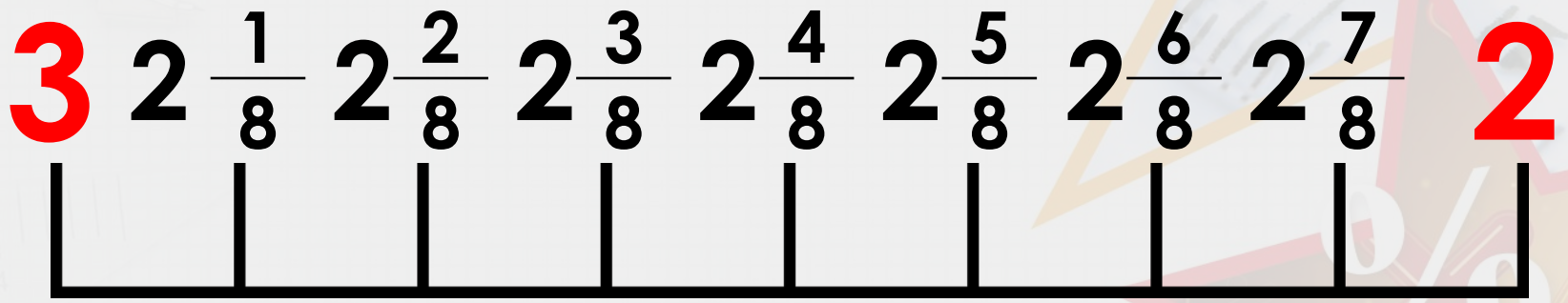
Varied Fluency 3

Mark $1\frac{4}{6}$ on the number line.



Varied Fluency 4

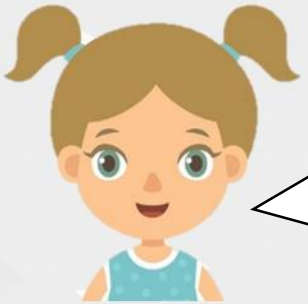
True or false? The fractions on this number line are correct.



False; the whole numbers at each end of the number line are in the wrong positions.

Reasoning 1

Danielle says,



If I start on $1\frac{2}{5}$ and count on 7 more fifths, I will end up on 3.

Draw a number line to work out if she is correct. Explain your answer.

No, Danielle is incorrect because she will land on $2\frac{4}{5}$.

Accept answers which use a number line to show this.

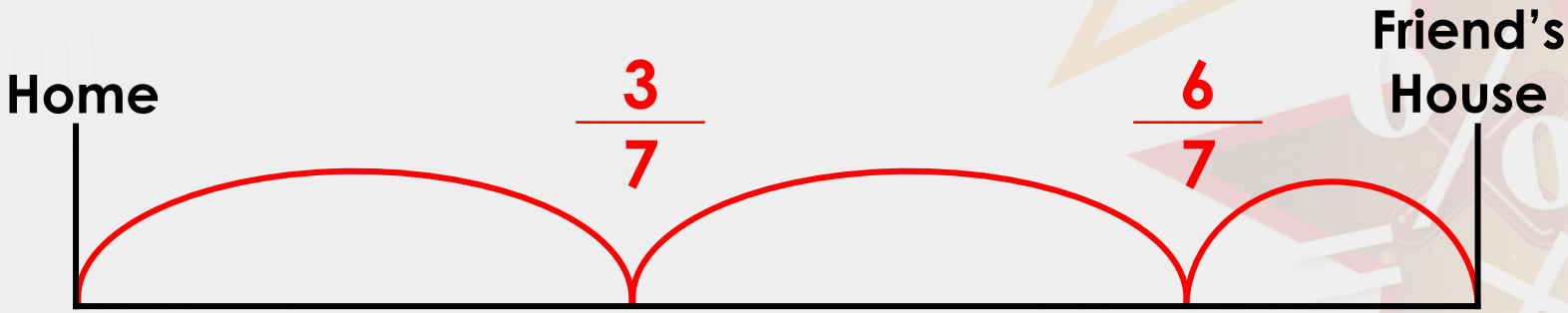
Problem Solving 1

Aleksander walks to his friend's house.

He rests when he is $\frac{3}{7}$ of the way there.

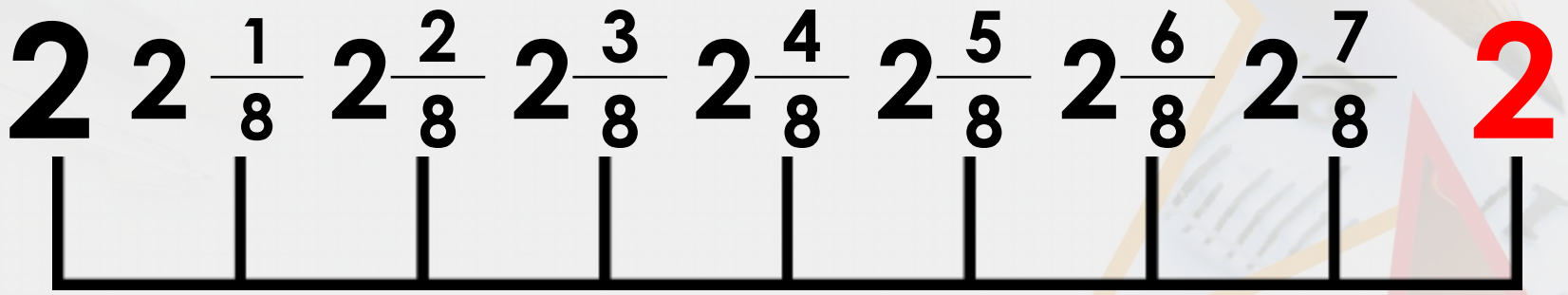
At $\frac{6}{7}$ of the way there, he stops at the shop to buy a drink.

Show Aleksander's journey on the blank number line.



Reasoning 2

Fatima thinks she has labelled this number line correctly.



Is she correct? Explain how you know.

She is incorrect because the whole number at the end of the number line should be 3, not 2.

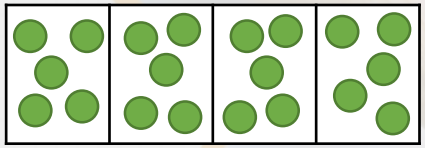
Tuesday

Step 7: Fractions of an Amount 1

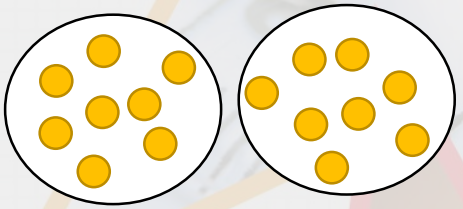
Introduction

Match the representation to the statement.

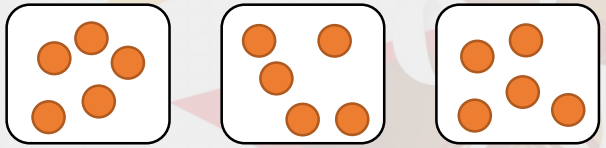
Three equal groups of 5



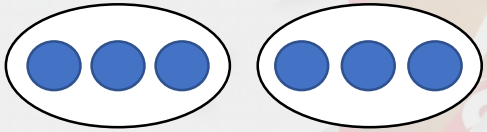
Two equal groups of 3



Four equal groups of 5



Two equal groups of 8



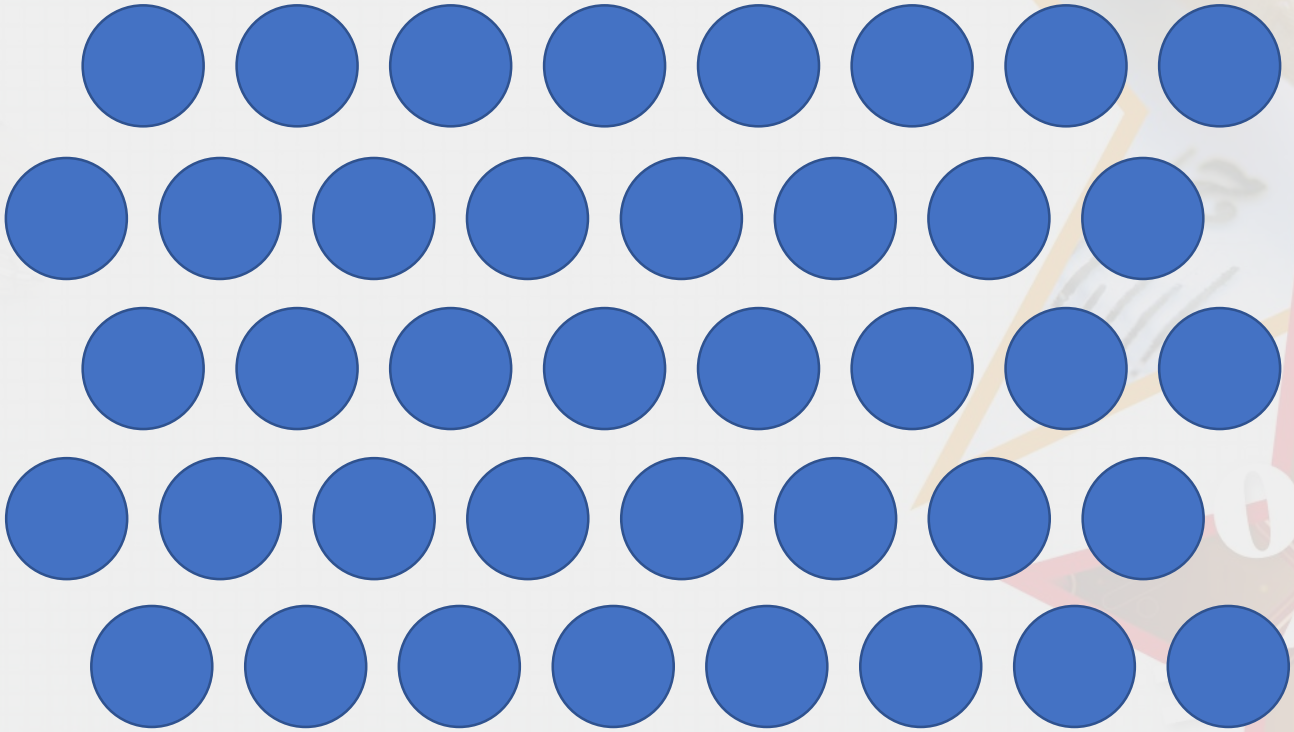
Varied Fluency 1

This is $\frac{1}{3}$ of a bag of sweets.

How many sweets were in the bag?

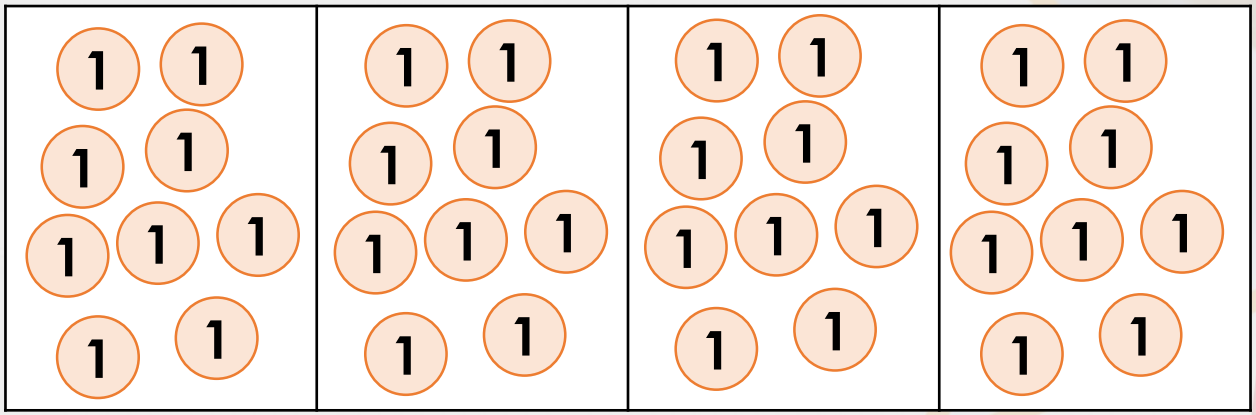
Varied Fluency 2

Find $\frac{1}{10}$ of 40 by circling equal groups.



Varied Fluency 3

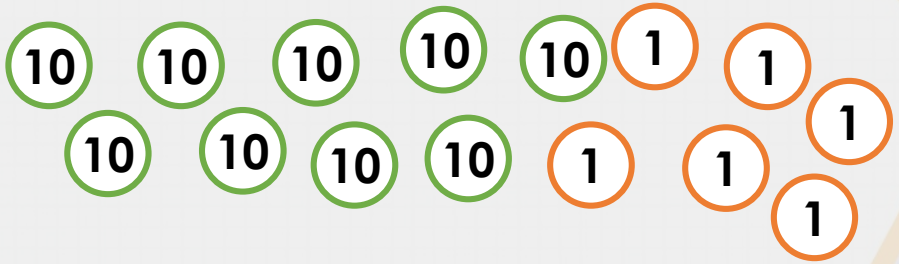
Fill in the gaps to show the calculation this bar model represents.

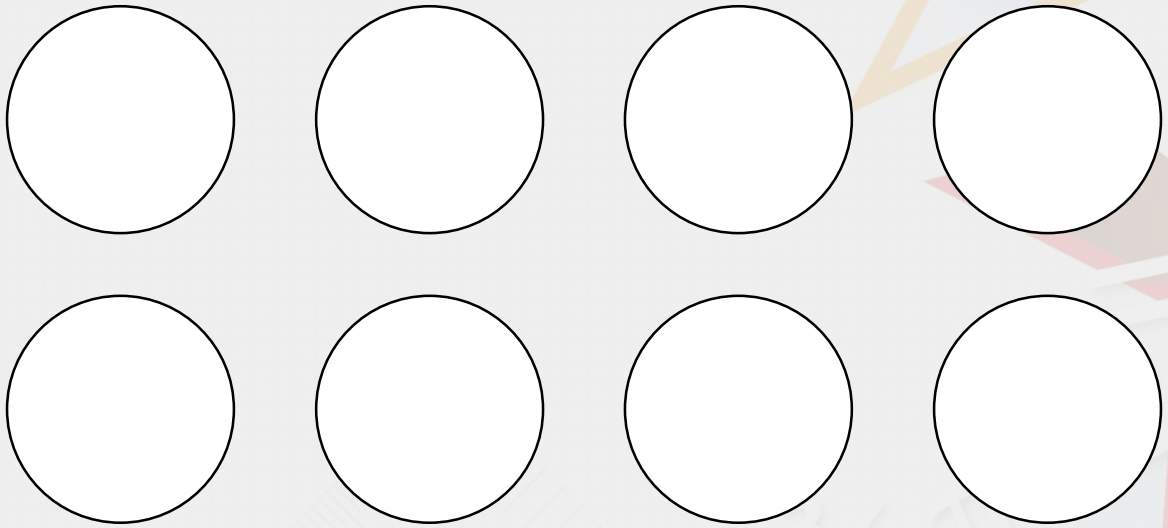


$\frac{1}{\square}$ of 36 = $\square$

Varied Fluency 4

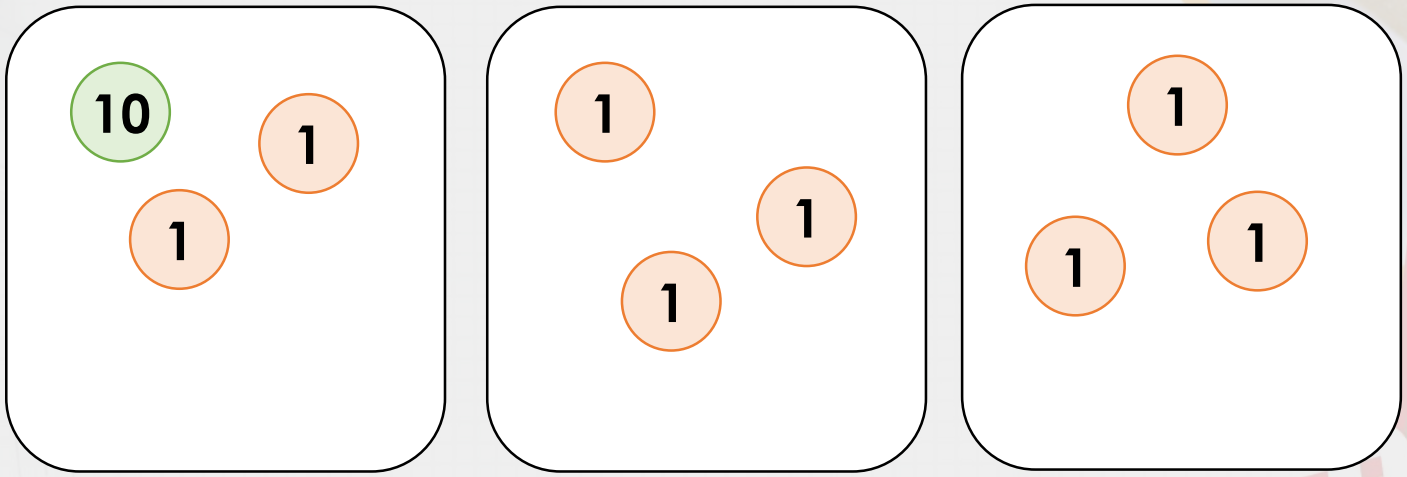
Find $\frac{1}{8}$ of 96 using place value counters.





Reasoning 1

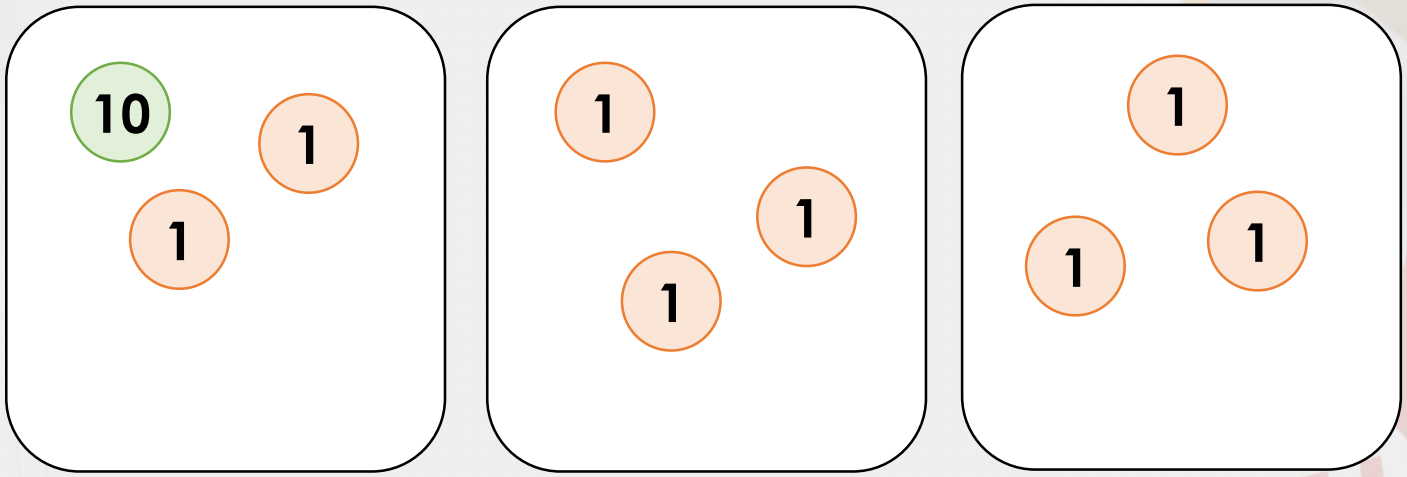
D'Angelo thinks he has found $\frac{1}{3}$ of 18 using place value counters.



Is D'Angelo correct? Convince me.

Reasoning 1

D'Angelo thinks he has found $\frac{1}{3}$ of 18 using place value counters.



Is D'Angelo correct? Convince me.

No because…

Problem Solving 1

Fill in the missing box to make the statement true.

$\frac{1}{3}$ of 24 > $\frac{1}{4}$ of $\square$

Reasoning 2

Jasmine runs a fruit stall.

She has one tenth of her fruit left.

How much fruit did she start with altogether? Explain your answer.

Reasoning 2

Jasmine runs a fruit stall.

She has one tenth of her fruit left.

How much fruit did she start with altogether? Explain your answer.

70 pieces of fruit because…

Introduction

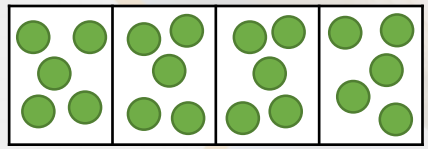
Match the representation to the statement.

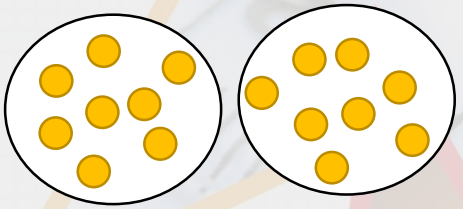
Three equal groups of 5

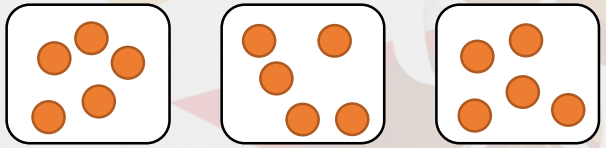
Two equal groups of 3

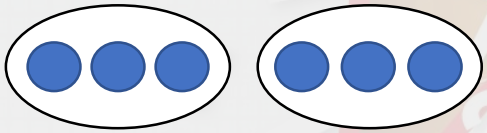
Four equal groups of 5

Two equal groups of 8



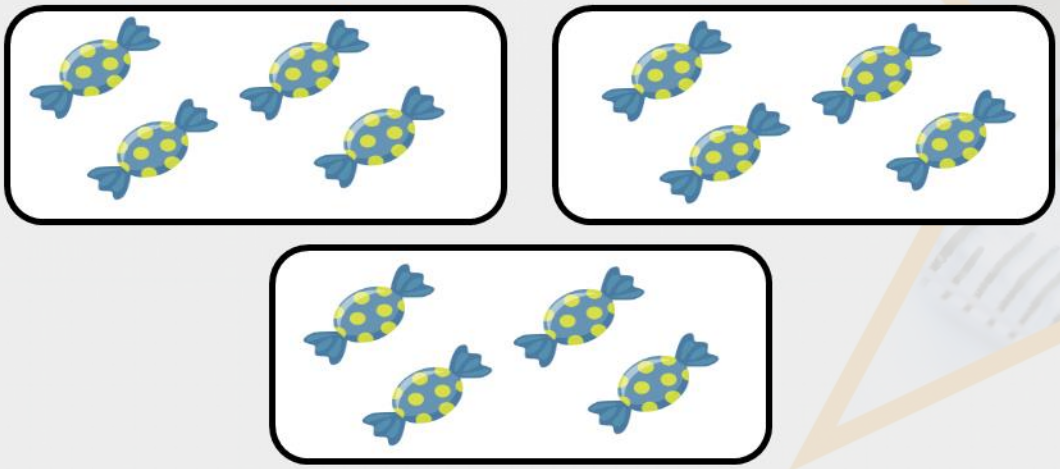






Varied Fluency 1

This is $\frac{1}{3}$ of a bag of sweets.

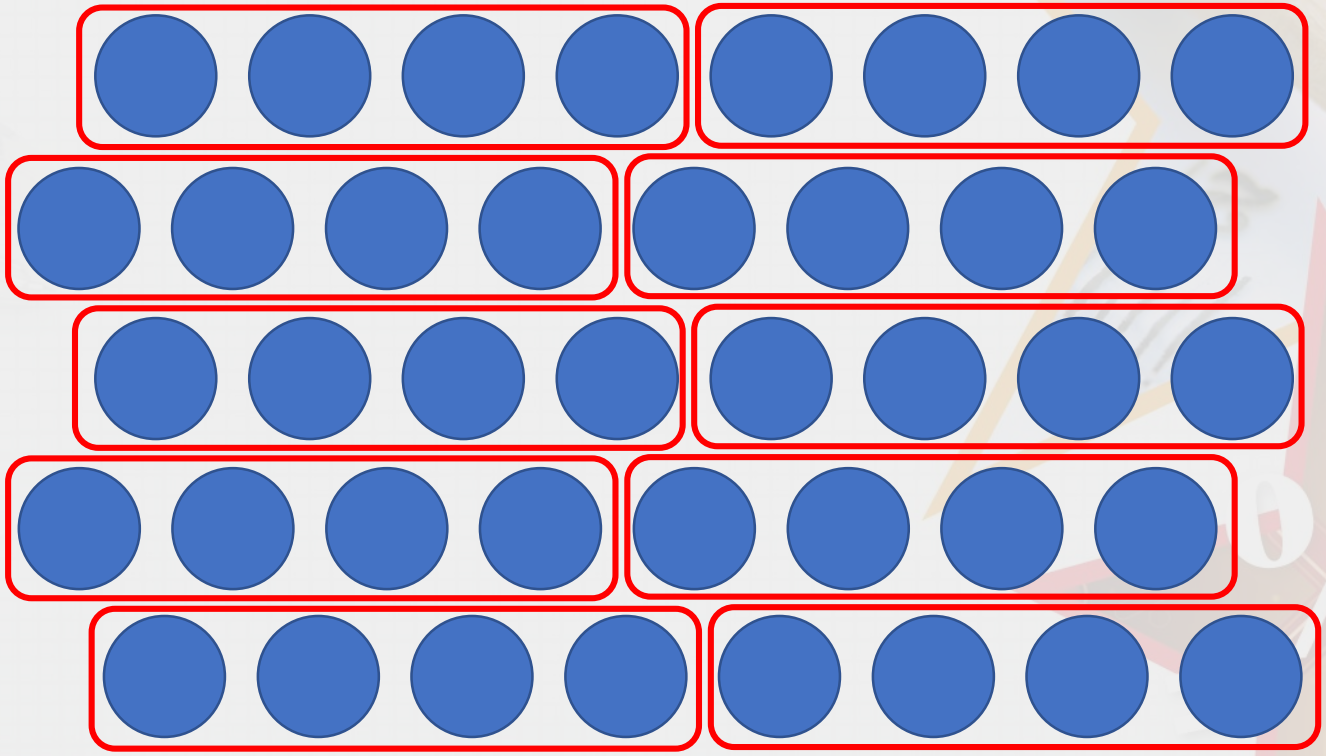


How many sweets were in the bag?

12 sweets

Varied Fluency 2

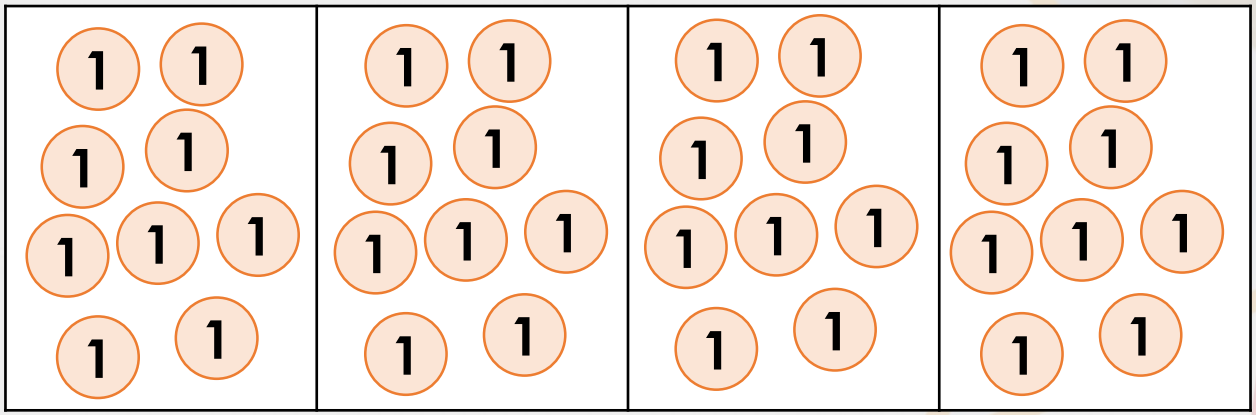
Find $\frac{1}{10}$ of 40 by circling equal groups.



4

Varied Fluency 3

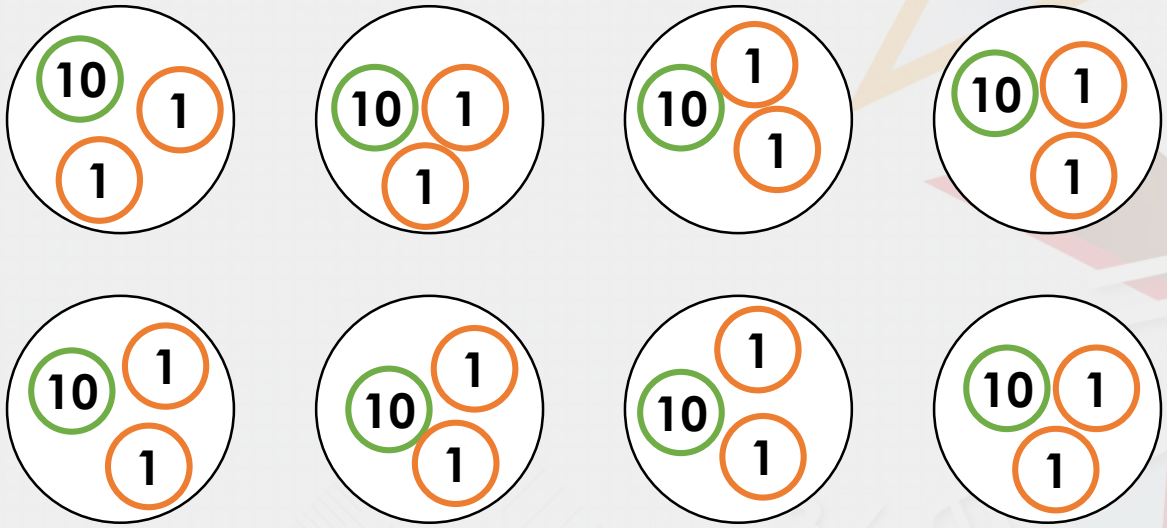
Fill in the gaps to show the calculation this bar model represents.



$\frac{1}{4}$ of 36 = 9

Varied Fluency 4

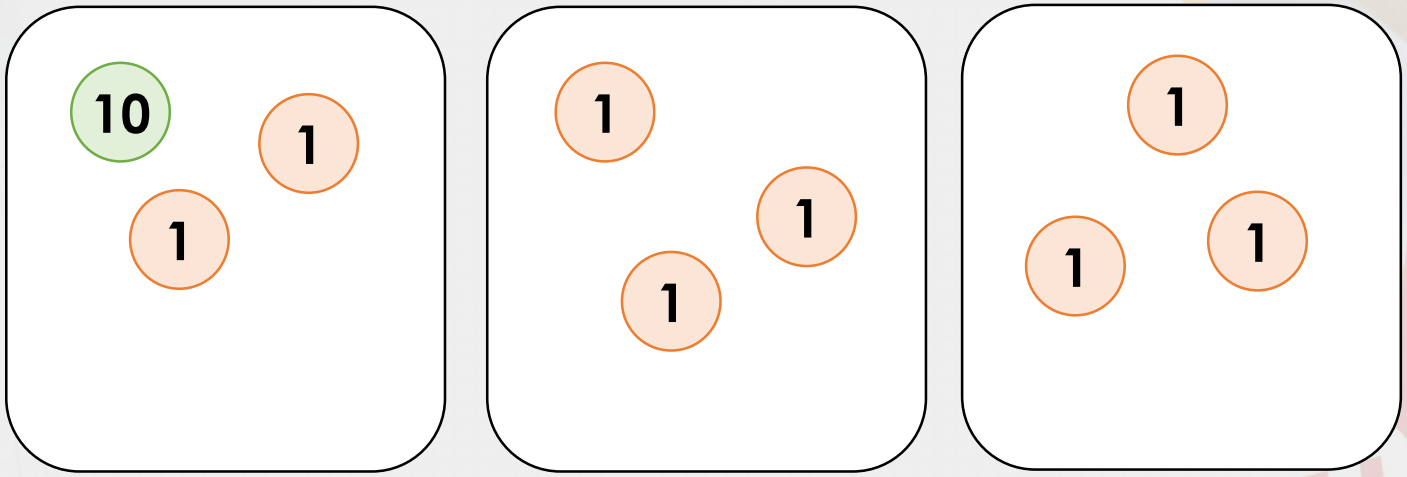
Find $\frac{1}{8}$ of 96 using place value counters.



12 (you need to exchange one of the tens).

Reasoning 1

D'Angelo thinks he has found $\frac{1}{3}$ of 18 using place value counters.



Is D'Angelo correct? Convince me.

No because he has not exchanged the tens counter for 10 ones. He should have 6 ones counters in each group.

Problem Solving 1

Fill in the missing box to make the statement true.

Possible answer:

$\frac{1}{3}$ of 24 > $\frac{1}{4}$ of $\boxed{16}$

Reasoning 2

Jasmine runs a fruit stall.

She has one tenth of her fruit left.

How much fruit did she start with altogether? Explain your answer.

70 pieces of fruit because 7 is one tenth of 70.

Wednesday

Step 8: Fraction of an Amount 2

Introduction

Match the calculation to the correct answer.

$$\frac{3}{7} \text{ of } 42$$

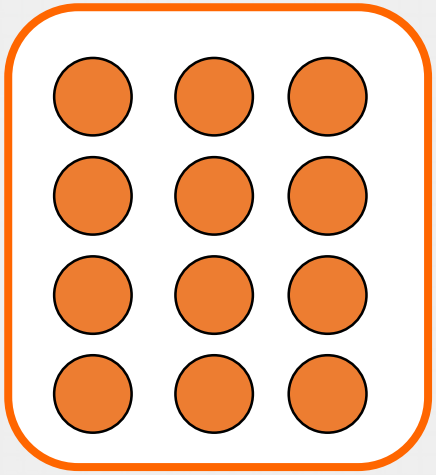
35

18

21

Varied Fluency 1

Use the counters to find two thirds of 12.



$\frac{2}{3}$ of 12 = $\square$

Varied Fluency 2

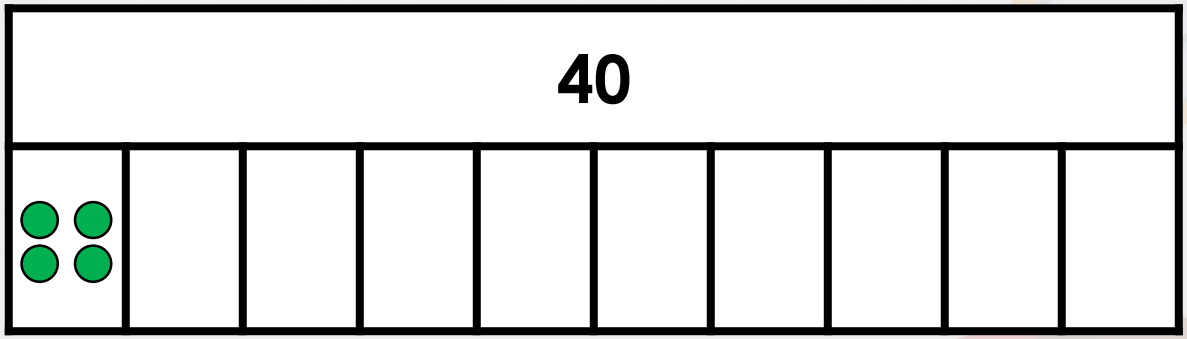
True or false?

$\frac{4}{5}$ of 25 = 15

Varied Fluency 3

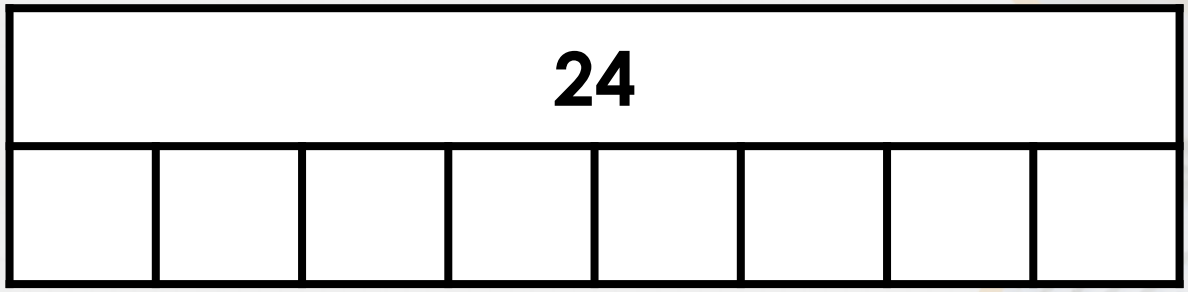
Draw counters to complete the bar model to solve the calculation.

$\frac{6}{10}$ of 40



Varied Fluency 4

Use the bar model below to calculate the following fractions.



A. $\frac{2}{8}$ of 24

B. $\frac{3}{8}$ of 24

C. $\frac{7}{8}$ of 24

Reasoning 1

Kelvin and Freya each have £24 to spend.

Kelvin

I spent $\frac{2}{4}$ of my money.

I spent $\frac{3}{8}$ of my money.

Freya

How much money does each child spend?

How much do they have left?

Reasoning 1

Kelvin and Freya each have £24 to spend.

Kelvin

I spent $\frac{2}{4}$ of my money.

I spent $\frac{3}{8}$ of my money.

Freya

How much money does each child spend?

How much do they have left?

Kelvin spends £ , he has £ left.
Freya spends £ , she has £ left.

Problem Solving 1

Sara has 30 flowers.

She gives $\frac{3}{10}$ to her mum and $\frac{2}{5}$ to her auntie.

How many does she have left?

Reasoning 2

James and Maisie are calculating fractions of an amount.

Out of 24 milkshakes, two thirds are sold.
How many are left?

James

There will be 8 left.

There will be 16 left.

Maisie

Who is correct? Explain how you know.

Reasoning 2

James and Maisie are calculating fractions of an amount.

Out of 24 milkshakes, two thirds are sold.
How many are left?

James

There will be 8 left.

There will be 16 left.

Maisie

Who is correct? Explain how you know.

James is correct because…

Introduction

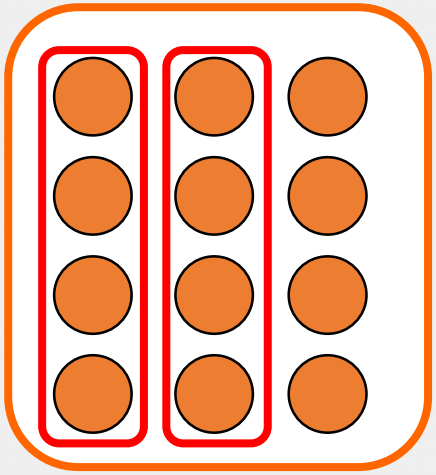
Match the calculation to the correct answer.

$$\frac{3}{7} \text{ of } 42$$

35	18	21

Varied Fluency 1

Use the counters to find two thirds of 12.



$\frac{2}{3}$ of 12 = **8**

Varied Fluency 2

True or false?

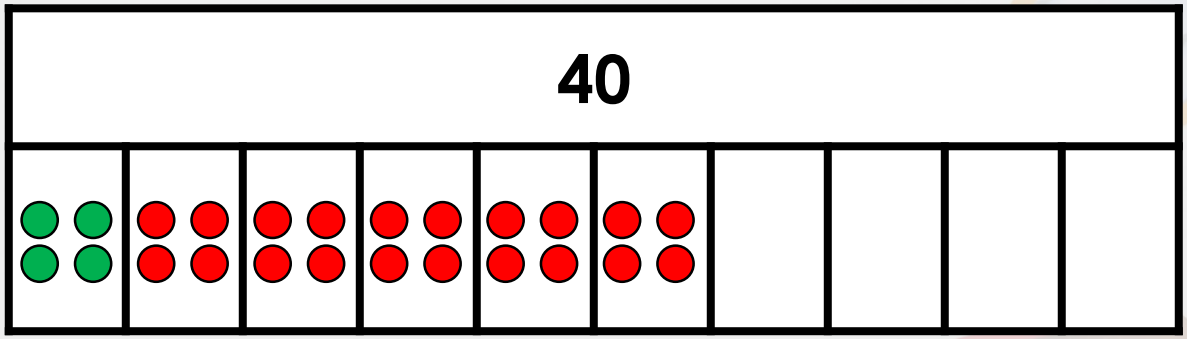
$\frac{4}{5}$ of 25 = 15

False, $\frac{4}{5}$ of 25 = 20

Varied Fluency 3

Draw counters to complete the bar model to solve the calculation.

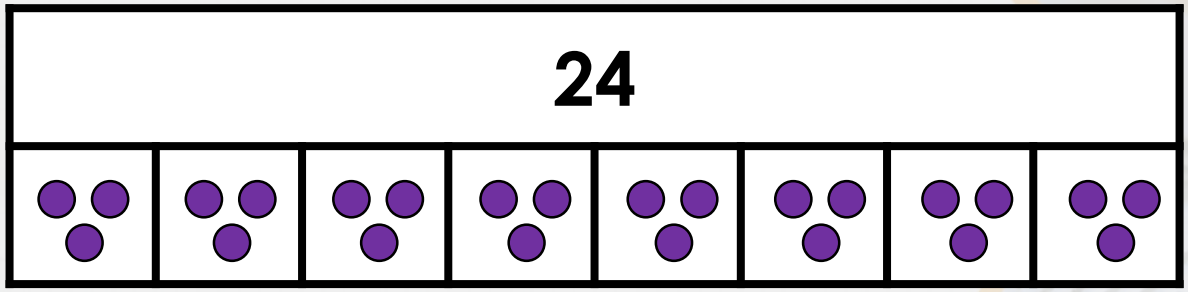
$\frac{6}{10}$ of 40



20 more counters should be added to make 24.

Varied Fluency 4

Use the bar model below to calculate the following fractions.



A.	$\frac{2}{8}$ of 24	6
B.	$\frac{3}{8}$ of 24	9
C.	$\frac{7}{8}$ of 24	21

Reasoning 1

Kelvin and Freya each have £24 to spend.

Kelvin

I spent $\frac{2}{4}$ of my money.

I spent $\frac{3}{8}$ of my money.

Freya

How much money does each child spend?

How much do they have left?

Kelvin spends £12, he has £12 left.
Freya spends £9, she has £15 left.

Problem Solving 1

Sara has 30 flowers.

She gives $\frac{3}{10}$ to her mum and $\frac{2}{5}$ to her auntie.

How many does she have left?

$\frac{3}{10}$ of 30 = 9 $\frac{2}{5}$ of 30 = 12 9 + 12 = 21 30 – 21 = 9

James and Maisie are calculating fractions of an amount.

Out of 24 milkshakes, two thirds are sold.
How many are left?

James

There will be 8 left.

There will be 16 left.

Maisie

Who is correct? Explain how you know.

James is correct because $\frac{1}{3}$ of 24 = 8

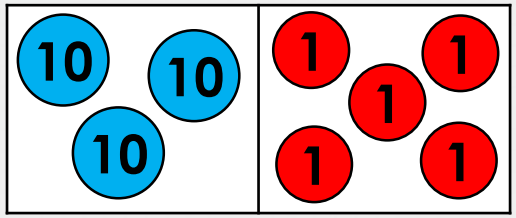
Maisie has calculated how many were sold. $\frac{2}{3}$ of 24 = 16

Thursday

Step 9: Fraction of an Amount 3

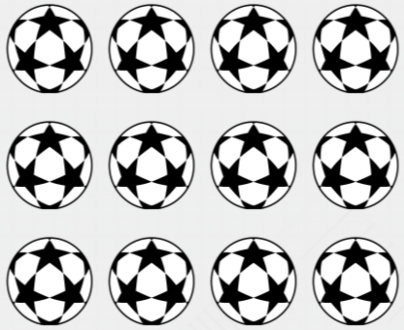
Introduction

Match the fraction to the answer.

$\frac{2}{5}$ of 

$\frac{1}{8}$ of sixteen

$\frac{3}{4}$ of 24

$\frac{2}{3}$ of 

18
8
two
14

Varied Fluency 1

Complete the sentences. A cooler box holds 60L.

Josh fills one fifth of the box with food.

He fills _____ litres.

There are _____ litres left in his box.

Varied Fluency 2

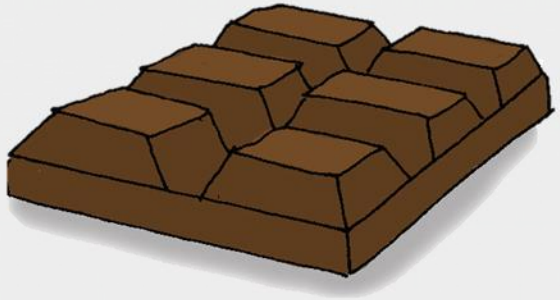
Tara is completing a 60km journey.

She stops after $\frac{4}{10}$ of her journey.

She has driven 40km. True or false?

Varied Fluency 3

Josh has 32g of chocolate. He shares it between his three friends.



How much chocolate does each friend have?
Circle the correct answer.

16g **8g** **10g**

Varied Fluency 4

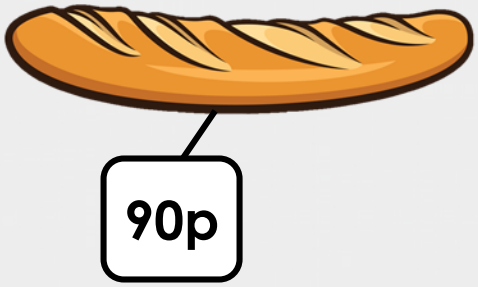
Add >, < or = to make the equation correct.

$\frac{3}{4}$ of 20m $\square$ $\frac{3}{5}$ of 20m

Problem Solving 1

A shop is having a sale and everything is reduced by $\frac{1}{10}$.

70p



90p

40p

50p

What are the new prices?

Which items can you buy with 99p?

Reasoning 1

Each child throws a ball on a court 24m long.
Tara thinks she threw the ball the farthest.

Tara

I threw the ball $\frac{3}{8}$ of the court.

Sam

The ball went $\frac{2}{3}$ of the way across the court.

Is she correct? Explain why.

Reasoning 1

Each child throws a ball on a court 24m long.
Tara thinks she threw the ball the farthest.

Tara

I threw the ball $\frac{3}{8}$ of the court.

Sam

The ball went $\frac{2}{3}$ of the way across the court.

Is she correct? Explain why.

Tara is not correct because…

Reasoning 2

Read the statements below:

A. $\frac{3}{8}$ **of £48 is £18**

B. $\frac{3}{8}$ **of £48 is £16**

Which is correct? Convince me.

Reasoning 2

Read the statements below:

A. $\frac{3}{8}$ of £48 is £18

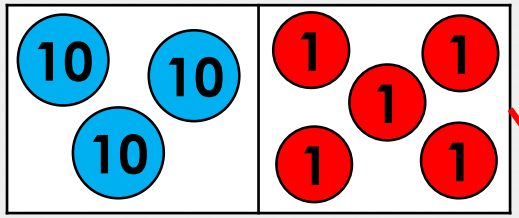
B. $\frac{3}{8}$ of £48 is £16

Which is correct? Convince me.

A is correct because…

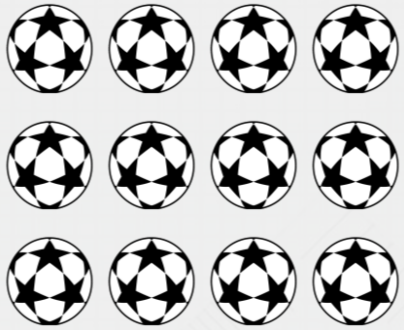
Introduction

Match the fraction to the answer.

$\frac{2}{5}$ of 

$\frac{1}{8}$ of sixteen

$\frac{3}{4}$ of 24

$\frac{2}{3}$ of 

18
8
two
14

Varied Fluency 1

Complete the sentences. A cooler box holds 60L.

Josh fills one fifth of the box with food.

He fills __12__ litres.

There are __48__ litres left in his box.

Varied Fluency 2

Tara is completing a 60km journey.

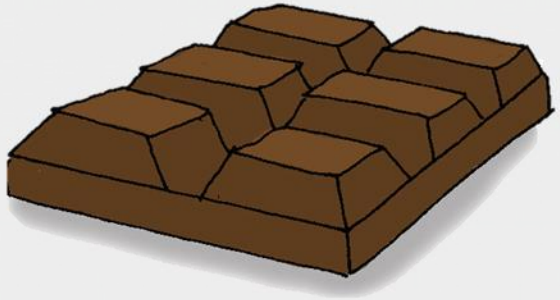
She stops after $\frac{4}{10}$ of her journey.

She has driven 40km. True or false?

False, she has driven 24km.

Varied Fluency 3

Josh has 32g of chocolate. He shares it between his three friends.



How much chocolate does each friend have?
Circle the correct answer.

16g **8g** 10g

Varied Fluency 4

Add >, < or = to make the equation correct.

$\frac{3}{4}$ of 20m $>$ $\frac{3}{5}$ of 20m

Problem Solving 1

A shop is having a sale and everything is reduced by $\frac{1}{10}$.

70p

63p

90p 81p

40p

36p

50p

45p

What are the new prices?

Which items can you buy with 99p?

You can buy the drink and the apple or the bun and the apple.

Reasoning 1

Each child throws a ball on a court 24m long.
Tara thinks she threw the ball the farthest.

Tara

I threw the ball $\frac{3}{8}$ of the court.

Sam

The ball went $\frac{2}{3}$ of the way across the court.

Is she correct? Explain why.

Tara is not correct because she has thrown the ball 9m and Sam has thrown the ball 16m. Sam threw the ball the farthest.

Reasoning 2

Read the statements below:

A. $\frac{3}{8}$ of £48 is £18

B. $\frac{3}{8}$ of £48 is £16

Which is correct? Convince me.

A is correct because 48 ÷ 8 = 6 and 6 x 3 = 18.