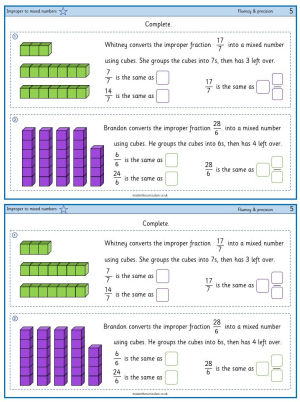
Lesson 3 – Improper to Mixed Numbers

NC Objective:	Resources needed:	Vocabulary:
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example 2/5 + 4/5 = 6/5 = 1 1/5]	Differentiated Sheets Teaching Slides	Improper fractions, mixed numbers, convert, numerator, denominator, represent

Children convert improper fractions to mixed numbers for the first time. An improper fraction is a fraction where the numerator is greater than the denominator. A mixed number is a number consisting of an integer and a proper fraction. It is important for children to see this process represented visually to allow them to make the connections between the concept and what happens in the abstract.

Key Questions:
How many parts are there in a whole?
What do you notice happens to the mixed number when the denominator increases and the numerator remains the same?
What happens when the numerator is a multiple of the denominator?

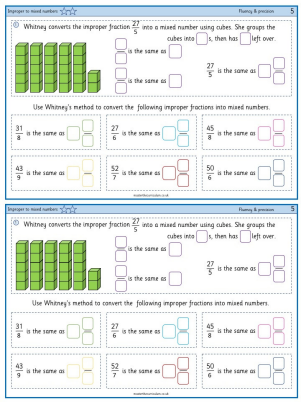
★ Working Towards



Children continue to convert improper fractions to mixed numbers.

On this sheet, they will use cubes and the pictorial image to represent improper fraction as a mixed number and fill in the gaps to represent the fraction and mixed number.

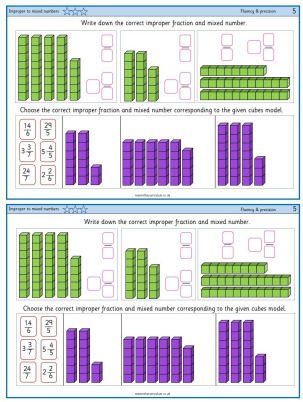
★★ Working Within



Children continue to convert improper fractions to mixed numbers.

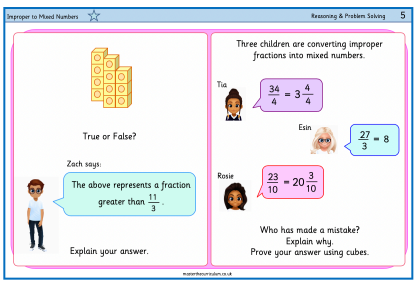
On this sheet, they will use cubes as a practical lesson to represent improper fraction as a mixed number and fill in the gaps to represent the number sentence.

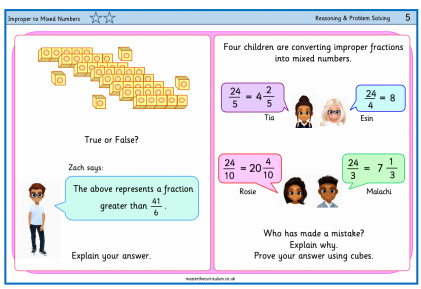
★★★ Greater Depth

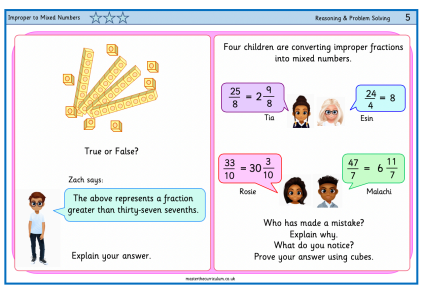


On this sheet, children practise their fluency by sorting the improper fractions.

Reasoning & Problem Solving

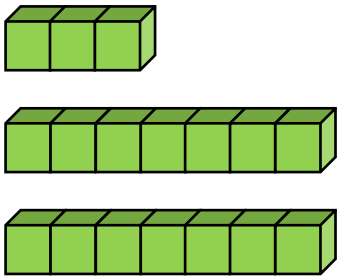






Complete the following by filling in the boxes.

1



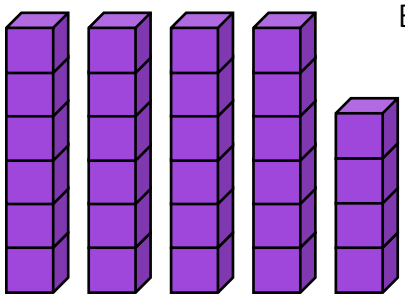
Whitney converts the improper fraction $\frac{17}{7}$ into a mixed number using cubes. She groups the cubes into 7s, then has 3 left over.

$\frac{7}{7}$ is the same as ☐

$\frac{14}{7}$ is the same as ☐

$\frac{17}{7}$ is the same as ☐ $\frac{\square}{\square}$

2



Brandon converts the improper fraction $\frac{28}{6}$ into a mixed number using cubes. He groups the cubes into 6s, then has 4 left over.

$\frac{6}{6}$ is the same as ☐

$\frac{24}{6}$ is the same as ☐

$\frac{28}{6}$ is the same as ☐ $\frac{\square}{\square}$

Improper to mixed numbers ☆ Fluency & Precision 5

Complete the following by filling in the boxes.

1

Whitney converts the improper fraction $\frac{17}{7}$ into a mixed number using cubes. She groups the cubes into 7s, then has 3 left over.

$\frac{7}{7}$ is the same as ☐

$\frac{14}{7}$ is the same as ☐

$\frac{17}{7}$ is the same as ☐ $\frac{\square}{\square}$

2

Brandon converts the improper fraction $\frac{28}{6}$ into a mixed number using cubes. He groups the cubes into 6s, then has 4 left over.

$\frac{6}{6}$ is the same as ☐

$\frac{24}{6}$ is the same as ☐

$\frac{28}{6}$ is the same as ☐ $\frac{\square}{\square}$

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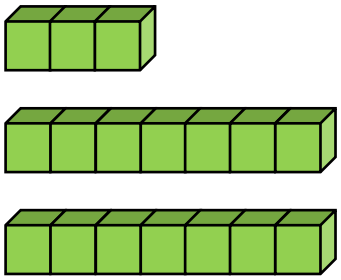
1



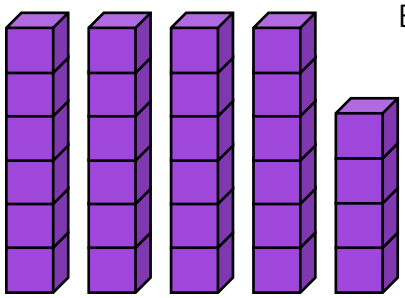
Whitney converts the improper fraction $\frac{17}{7}$ into a mixed number using cubes. She groups the cubes into 7s, then has 3 left over.

$\frac{7}{7}$ is the same as 1

$\frac{14}{7}$ is the same as 2

$\frac{17}{7}$ is the same as $2\frac{3}{7}$

2



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$\frac{6}{6}$ is the same as 1

$\frac{24}{6}$ is the same as 4

$\frac{28}{6}$ is the same as $4\frac{4}{6}$

Improper to mixed numbers ☆ Answers Fluency & Precision 5

Complete the following by filling in the boxes.

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Whitney converts the improper fraction $\frac{17}{7}$ into a mixed number using cubes. She groups the cubes into 7s, then has 3 left over.

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Brandon converts the improper fraction $\frac{28}{6}$ into a mixed number using cubes. He groups the cubes into 6s, then has 4 left over.

$\frac{6}{6}$ is the same as 1

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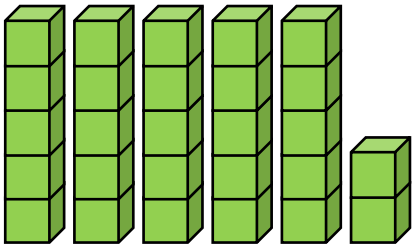
① Whitney converts the improper fraction $\frac{27}{5}$ into a mixed number using cubes. She groups the cubes into ☐ s, then has ☐ left over.



☐/☐ is the same as ☐

☐/☐ is the same as ☐

$\frac{27}{5}$ is the same as ☐ ☐/☐

Use Whitney's method to convert the following improper fractions into mixed numbers.

$\frac{31}{8}$ is the same as ☐ ☐/☐

$\frac{27}{6}$ is the same as ☐ ☐/☐

$\frac{45}{8}$ is the same as ☐ ☐/☐

$\frac{43}{9}$ is the same as ☐ ☐/☐

$\frac{52}{7}$ is the same as ☐ ☐/☐

$\frac{50}{6}$ is the same as ☐ ☐/☐

Improper to mixed numbers ☆☆ Fluency & Precision 5

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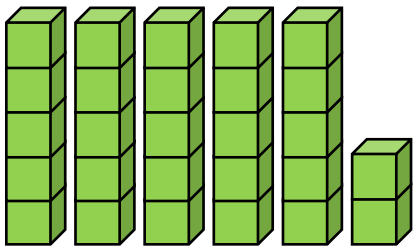

☐/☐ is the same as ☐

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$\frac{27}{5}$ is the same as ☐ ☐/☐

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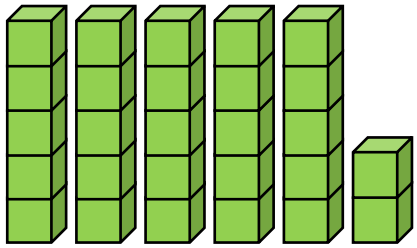
① Whitney converts the improper fraction $\frac{27}{5}$ into a mixed number using cubes. She groups the cubes into [5]s, then has [2] left over.



$\frac{5}{5}$ is the same as [1]

$\frac{25}{5}$ is the same as [5]

$\frac{27}{5}$ is the same as [5] $\frac{2}{5}$

Use Whitney's method to convert the following improper fractions into mixed numbers.

$\frac{31}{8}$ is the same as [3] $\frac{7}{8}$

$\frac{27}{6}$ is the same as [4] $\frac{3}{6}$

$\frac{45}{8}$ is the same as [5] $\frac{5}{8}$

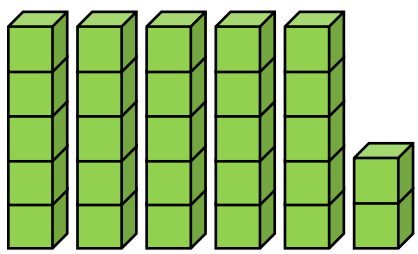
$\frac{43}{9}$ is the same as [4] $\frac{7}{9}$

$\frac{52}{7}$ is the same as [7] $\frac{3}{7}$

$\frac{50}{6}$ is the same as [8] $\frac{2}{6}$

Improper to mixed numbers ☆☆ Answers Fluency & Precision 5

① Whitney converts the improper fraction $\frac{27}{5}$ into a mixed number using cubes. She groups the cubes into [5]s, then has [2] left over.



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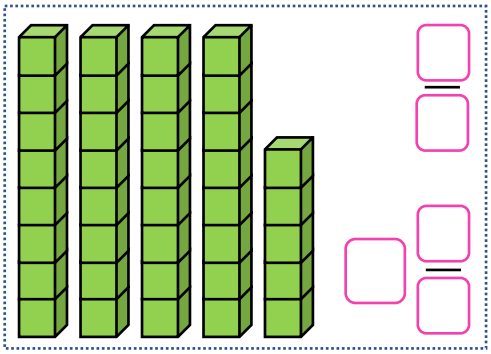
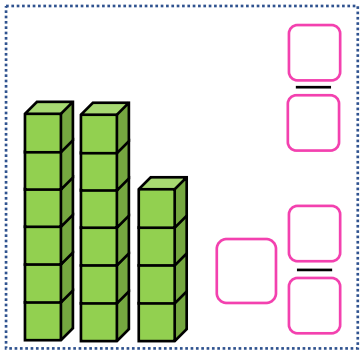
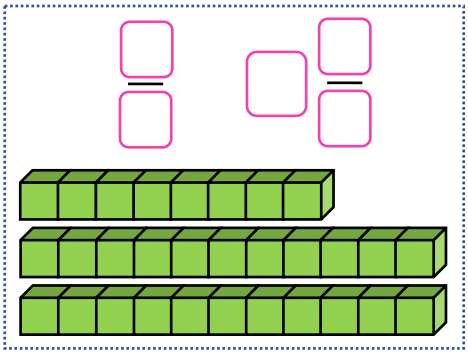
Write down the correct improper fraction and mixed number.

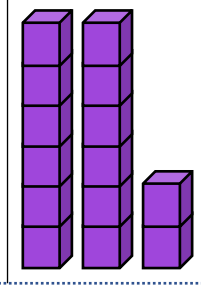


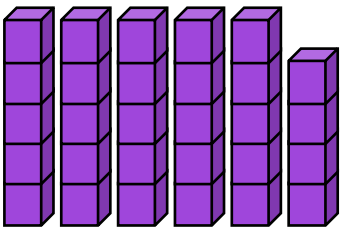


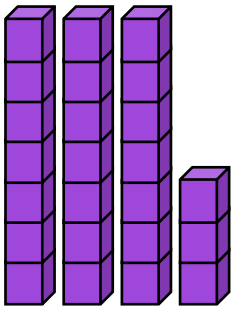


Choose the correct improper fraction and mixed number corresponding to the given cubes model.

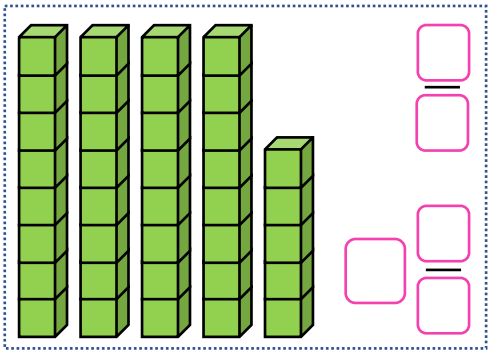
$\frac{14}{6}$ $\frac{29}{5}$ $3\frac{3}{7}$ $5\frac{4}{5}$ $\frac{24}{7}$ $2\frac{2}{6}$

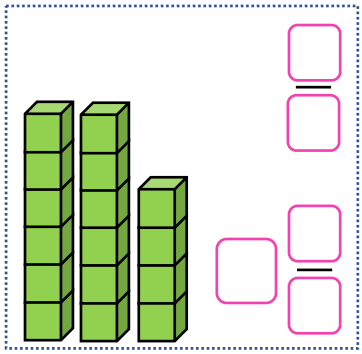


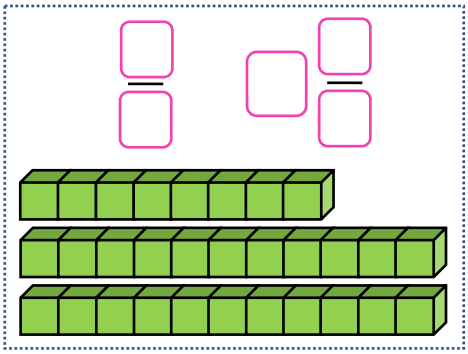




Write down the correct improper fraction and mixed number.

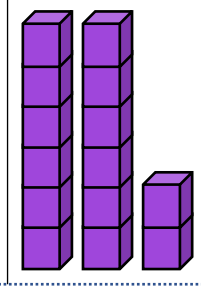


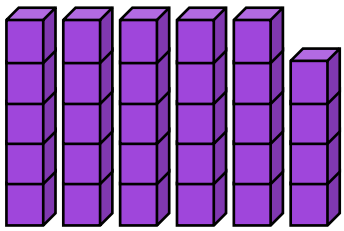


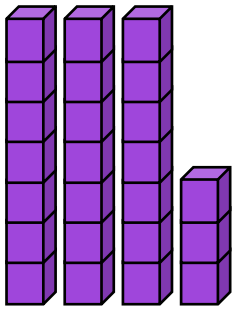


Choose the correct improper fraction and mixed number corresponding to the given cubes model.

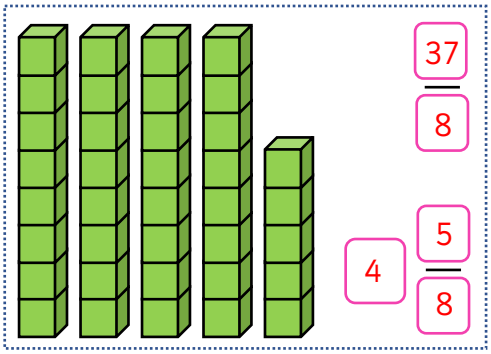
$\frac{14}{6}$ $\frac{29}{5}$ $3\frac{3}{7}$ $5\frac{4}{5}$ $\frac{24}{7}$ $2\frac{2}{6}$



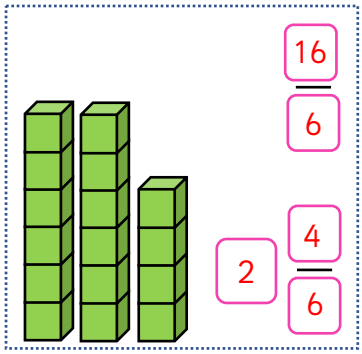




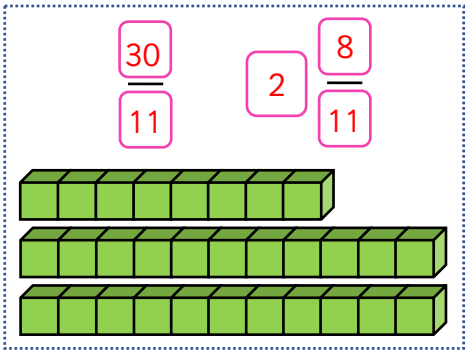
Write down the correct improper fraction and mixed number.



$\frac{37}{8}$ $4\frac{5}{8}$

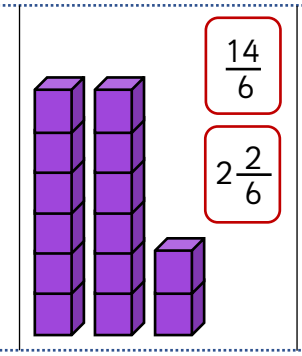


$\frac{16}{6}$ $2\frac{4}{6}$

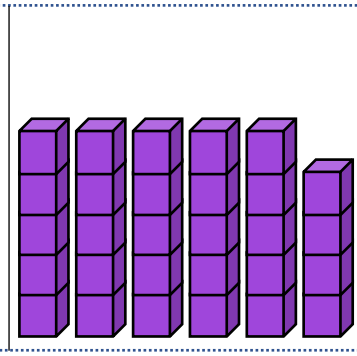


$\frac{30}{11}$ $2\frac{8}{11}$

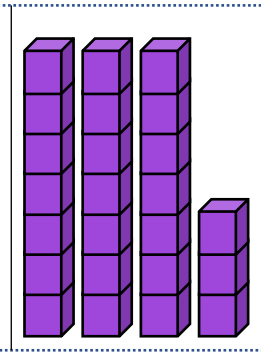
Choose the correct improper fraction and mixed number corresponding to the given cubes model.



$\frac{14}{6}$ $2\frac{2}{6}$

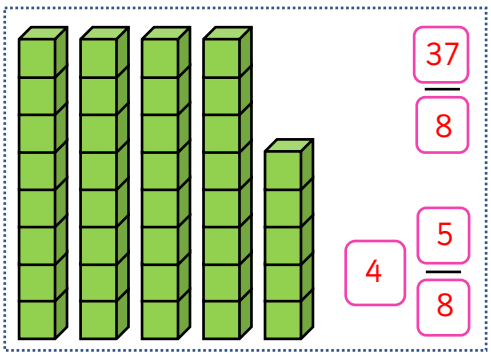


$\frac{29}{5}$ $5\frac{4}{5}$

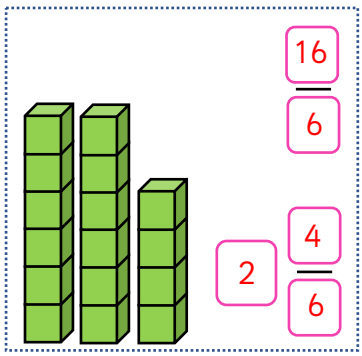


$\frac{24}{7}$ $3\frac{3}{7}$

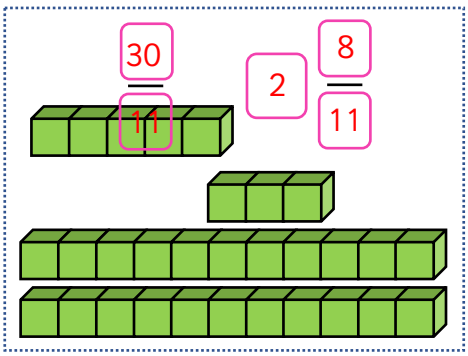
Write down the correct improper fraction and mixed number.



$\frac{37}{8}$ $4\frac{5}{8}$



$\frac{16}{6}$ $2\frac{4}{6}$



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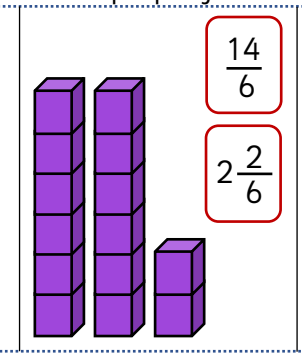
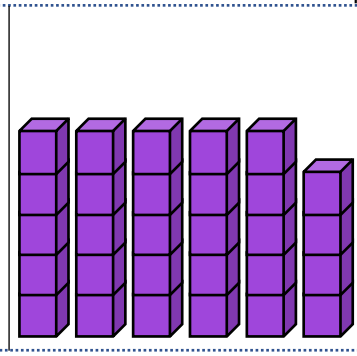
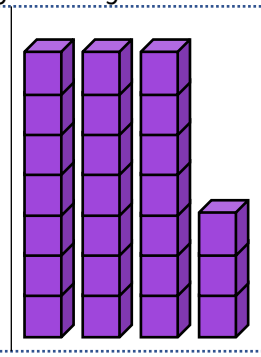


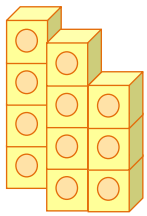
$\frac{14}{6}$ $2\frac{2}{6}$



$\frac{29}{5}$ $5\frac{4}{5}$



$\frac{24}{7}$ $3\frac{3}{7}$



True or False?

Zach says:

The above represents a fraction greater than $\frac{11}{3}$.

Explain your answer.

Three children are converting improper fractions into mixed numbers.

Tia

$\frac{34}{4} = 3\frac{4}{4}$

Esin

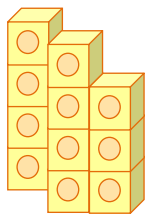
$\frac{27}{3} = 8$

Rosie

$\frac{23}{10} = 20\frac{3}{10}$

Who has made a mistake?
Explain why.
Prove your answer using cubes.

Improper to Mixed Numbers ☆ Reasoning & Problem Solving 5



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Rosie

$\frac{23}{10} = 20\frac{3}{10}$

Who has made a mistake?
Explain why.
Prove your answer using cubes.

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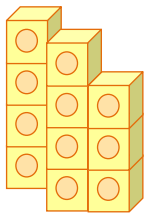


True or False?

Zach says:

The above represents a fraction greater than $\frac{11}{3}$.

Explain your answer.

False.

$\frac{11}{3} = 3\frac{2}{3}$

The represented fraction is $2\frac{3}{4}$

Three children are converting improper fractions into mixed numbers.

Tia

$\frac{34}{4} = 3\frac{4}{4}$

Esin

$\frac{27}{3} = 8$

Rosie

$\frac{23}{10} = 20\frac{3}{10}$

Who has made a mistake? Explain why.
Prove your answer using cubes.

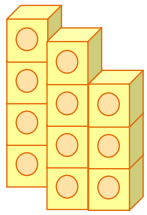
Each of them has made a mistake.

Tia: $8\frac{2}{4}$

Esin: 9

Rosie: $2\frac{3}{10}$

Improper to Mixed Numbers ☆ Answers Reasoning & Problem Solving 5



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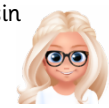

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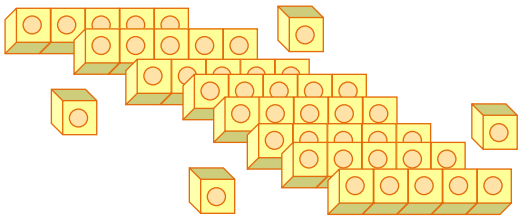


True or False?

Zach says:

The above represents a fraction greater than $\frac{41}{6}$.

Explain your answer.

Four children are converting improper fractions into mixed numbers.

$\frac{24}{5} = 4\frac{2}{5}$ Tia

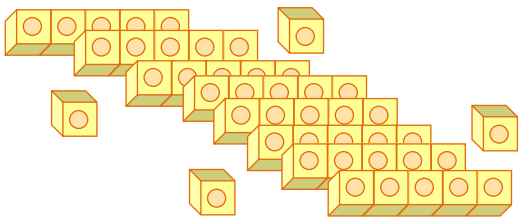
$\frac{24}{4} = 8$ Esin

$\frac{24}{10} = 20\frac{4}{10}$ Rosie

$\frac{24}{3} = 7\frac{1}{3}$ Malachi

Who has made a mistake?
Explain why.
Prove your answer using cubes.

Improper to Mixed Numbers ☆☆ Reasoning & Problem Solving 5



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Who has made a mistake?
Explain why.
Prove your answer using cubes.

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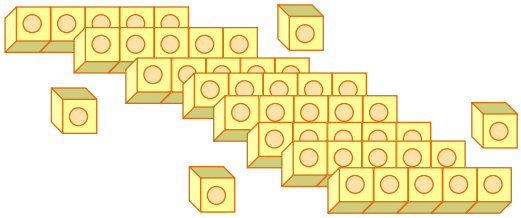


True or False?

Zach says:

The above represents a fraction greater than $\frac{41}{6}$.

Explain your answer.

True.

$\frac{41}{6} = 6\frac{5}{6}$

The represented fraction is $8\frac{4}{5}$

Four children are converting improper fractions into mixed numbers.

$\frac{24}{5} = 4\frac{2}{5}$ Tia

$\frac{24}{4} = 8$ Esin

$\frac{24}{10} = 20\frac{4}{10}$ Rosie

$\frac{24}{3} = 7\frac{1}{3}$ Malachi

Each of them has made a mistake.

Tia: $4\frac{4}{5}$

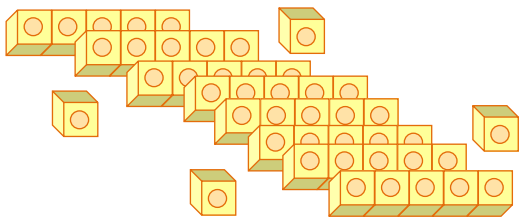
Esin: 6

Rosie: $2\frac{4}{10}$

Malachi: 8

Who has made a mistake?
Explain why.
Prove your answer using cubes.

Improper to Mixed Numbers ☆☆ Answers Reasoning & Problem Solving 5



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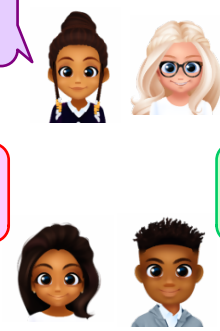

Each of them has made a mistake.

Tia: $4\frac{4}{5}$

Esin: 6

Rosie: $2\frac{4}{10}$

Malachi: 8

Who has made a mistake?
Explain why.
Prove your answer using cubes.

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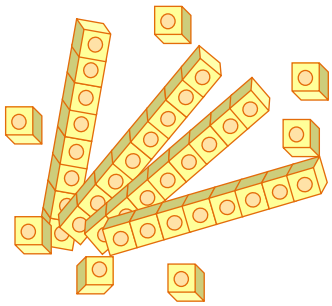


True or False?

Zach says:

The above represents a fraction greater than thirty-seven sevenths.

Explain your answer.

Four children are converting improper fractions into mixed numbers.

$\frac{25}{8} = 2\frac{9}{8}$ Tia

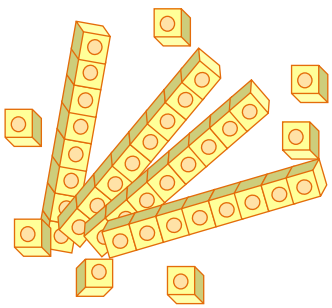
$\frac{24}{4} = 8$ Esin

$\frac{33}{10} = 30\frac{3}{10}$ Rosie

$\frac{47}{7} = 6\frac{11}{7}$ Malachi

Who has made a mistake?
Explain why.
What do you notice?
Prove your answer using cubes.

Improper to Mixed Numbers ☆☆☆ Reasoning & Problem Solving 5



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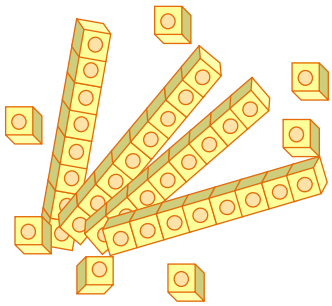


True or False?

Zach says:

The above represents a fraction greater than thirty-seven sevenths.

Explain your answer.

False.

$\frac{37}{7} = 5\frac{2}{7}$

The represented fraction is $4\frac{7}{8}$

Four children are converting improper fractions into mixed numbers.

$\frac{25}{8} = 2\frac{9}{8}$ Tia

$\frac{24}{4} = 8$ Esin

$\frac{33}{10} = 30\frac{3}{10}$ Rosie

$\frac{47}{7} = 6\frac{11}{7}$ Malachi




Each of them has made a mistake.

Who has made a mistake?

Explain why.

What do you notice?

Prove your answer using cubes.

Tia: $3\frac{1}{8}$

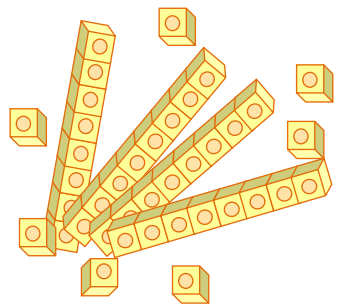
Esin: 6

Rosie: $3\frac{3}{10}$

Malachi: $6\frac{5}{7}$

Tia, Esin and Rosie were incorrect in converting wholes. Malachi has written the number of sevenths incorrectly.

Improper to Mixed Numbers ☆☆☆ Answers Reasoning & Problem Solving 5



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