

WA4MNAFR1

Understanding number

Core + Challenge

Mixed Numbers & Improper Fractions

I can convert between mixed numbers and improper fractions.

Name: _____ Date: _____ Score: / 53

Key idea

Converting fractions: an improper fraction has a numerator larger than its denominator (e.g. $7/3$). To convert to a mixed number, divide the numerator by the denominator: the whole number is the quotient, and the remainder becomes the new numerator.

E.g. $7/3$: $7 \div 3 = 2$ remainder 1 $\rightarrow 2 \frac{1}{3}$.

A Fluency *practise the skill*

/16 marks

Convert each fraction to the other form (improper fraction $\leftrightarrow$ mixed number).

1. $7/3$ _____

9. $1 \frac{5}{6}$ _____

2. $9/4$ _____

10. $10/3$ _____

3. $11/5$ _____

11. $17/5$ _____

4. $13/6$ _____

12. $15/4$ _____

5. $8/3$ _____

13. $2 \frac{2}{5}$ _____

6. $3 \frac{1}{2}$ _____

14. $5 \frac{1}{2}$ _____

7. $2 \frac{3}{4}$ _____

15. $19/6$ _____

8. $4 \frac{1}{3}$ _____

16. $3 \frac{3}{5}$ _____

B Core *apply the skill to problems*

/21 marks

- 1 A recipe calls for $11/4$ cups of flour. Write this as a mixed number.

[3 marks]

Answer: _____

- 2 A runner completes $3 \frac{1}{2}$ laps of a track. (a) Write this as an improper fraction. (b) If each lap is 400m, how far did the runner run in total, in metres? (Hint: use the improper fraction.)

[4 marks]

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Answer: _____

3

A pizza is cut into quarters. If 9 quarters were eaten across several pizzas, write this as a mixed number of pizzas.

[3 marks]

Answer: _____

4

A carpenter has $4 \frac{1}{3}$ metres of timber. (a) Write this as an improper fraction. (b) If she uses $\frac{2}{3}$ of a metre for one shelf, how many thirds of a metre does she have left? Give your answer as a mixed number.

[4 marks]

Answer: _____

5

A jug holds $17\frac{1}{5}$ litres of juice. Write this as a mixed number.

[3 marks]

Answer: _____

6

A chef needs $5 \frac{1}{2}$ cups of sugar in total across several batches. (a) Write this as an improper fraction. (b) If each batch uses $\frac{1}{2}$ a cup, how many batches can be made? (Hint: use the improper fraction.)

[4 marks]

Answer: _____

C

Reasoning *explain, justify and check***/9 marks**

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1

Explain how to convert an improper fraction into a mixed number, using $\frac{13}{6}$ as an example.

[2 marks]

2

Explain how to convert a mixed number into an improper fraction, using $4\frac{1}{3}$ as an example.

[2 marks]

3

A student says $\frac{5}{4}$ cannot be written as a mixed number because the numerator is too small. Explain why the student is incorrect.

[2 marks]

4

A student converts $2\frac{3}{4}$ to an improper fraction by writing $2 \times 3 = 6$, then adding 4 to get $\frac{10}{4}$. Explain the error in the student's method, and give the correct improper fraction.

[3 marks]

D

Challenge *multi-step and problem-solving*

/7 marks

1

An improper fraction converts to the mixed number $4\frac{2}{5}$. What is the improper fraction?

[2 marks]

Answer: _____

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2

Find two different improper fractions that both convert to a whole number part of 3 — one with denominator 4, and one with denominator 5.

[2 marks]

Answer: _____

3

A mixed number has a whole number part of 2 and, when converted to an improper fraction with denominator 7, gives a numerator less than 20. List all possible numerators for the fraction part (choosing from 1 to 6), and give the resulting improper fraction for the largest one.

[3 marks]

Answer: _____

How did I go?

Fluency ___/16 Core ___/21 Reasoning ___/9 Challenge ___/7 **Total ___/53**

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