

1. Factual recall

a) Calculate:

$$\frac{3}{7} + \frac{2}{5}$$

b) Convert to a mixed number:

$$\frac{23}{4}$$

c) Convert to an improper fraction:

$$5\frac{2}{5}$$

2. Carry out a routine procedure

Calculate:

$$\text{a) } 3\frac{1}{3} + 1\frac{1}{4}$$

$$\text{b) } 3\frac{2}{3} - 2\frac{3}{5}$$

$$\text{c) } 3\frac{4}{7} + 4\frac{5}{6}$$

3. Classify some mathematical object

Order the answers to the following questions in ascending order:

$$\text{a) } 6\frac{11}{12} - 1\frac{2}{3}$$

$$\text{b) } 2\frac{2}{5} + 2\frac{14}{15}$$

$$\text{c) } 2\frac{2}{3} + 2\frac{8}{15}$$

4. Interpret a situation or answer

A bus travels from Nottingham to Derby through Wollaton. The distance from Nottingham to Derby is $15\frac{4}{5}$ miles, Nottingham to Wollaton is $3\frac{1}{2}$ miles. What is the distance from Wollaton to Derby.

Mixed Numbers: Addition and Subtraction

5. Prove, show, justify

By filling in the boxes with the numbers 1-6, find the biggest possible sum.
The fractional parts are proper fractions.

Justify your answer.

$$\boxed{}\frac{\boxed{}}{\boxed{}} + \boxed{}\frac{\boxed{}}{\boxed{}} =$$

6. Extend a concept

Calculate:

$$3\frac{1}{3} - 2\frac{2}{5} + 1\frac{3}{7}$$

7. Construct an instance

Fill in the following boxes with mixed numbers to obtain the following answers.

$$\boxed{} + \boxed{} = \frac{1}{2}$$

$$\boxed{} - \boxed{} = 1\frac{2}{3}$$

$$\boxed{} + \boxed{} = 2.75$$

8. Criticise a fallacy

Tim attempted the following question.

$$\begin{aligned} & 3\frac{2}{5} - 2\frac{1}{3} \\ &= \frac{15}{5} - \frac{6}{3} \\ &= \frac{15}{15} - \frac{6}{15} \\ &= \frac{9}{15} \\ &= \frac{3}{5} \end{aligned}$$

Explain where Tim went wrong