Reasoning and Problem Solving
Step 7: Add and Subtract Fractions

National Curriculum Objectives:

Mathematics Year 5: (5F4) Add and subtract fractions with the same denominator and denominators that are multiples of the same number
Mathematics Year 5: (5F2a) 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]

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Identify and explain errors when adding and subtracting fractions within one.
Expected Identify and explain errors when adding and subtracting fractions where the answer is a mixed number.
Greater Depth Identify and explain errors when adding and subtracting fractions where the answer is a mixed number and simplified using knowledge of equivalent fractions.

Questions 2, 5 and 8 (Problem Solving)
Developing Insert the correct symbol to compare an equation. Includes adding and subtracting fractions within one.
Expected Insert the correct symbol to compare an equation. Includes adding and subtracting fractions where one side of the equation is an improper fraction.
Greater Depth Insert the correct symbol to compare an equation. Includes adding and subtracting fractions where both sides of the equation includes improper fractions.

Questions 3, 6 and 9 (Problem Solving)
Developing Use digit cards to make a calculation correct. Includes adding and subtracting fractions within one.
Expected Use digit cards to make a calculation correct. Includes adding and subtracting fractions where the answer is a mixed number.
Greater Depth Use digit cards to make a calculation correct. Includes adding and subtracting fractions where the answer is a mixed number and simplified using knowledge of equivalent fractions.

More Year 5 and Year 6 Fractions resources.

Did you like this resource? Don't forget to review it on our website.

Add and Subtract Fractions

Add and Subtract Fractions

1a. Mel is calculating the missing numerator in the following calculation:

$$\frac{\square}{7} + \frac{4}{7} = \frac{6}{7}$$

I think the missing numerator must be 10.

Is she correct? Explain why.

5 R

1b. Ian is calculating the missing numerator in the following calculation:

$$\frac{2}{8} + \frac{\square}{8} = \frac{8}{8}$$

I think the missing numerator must be 10.

Is he correct? Explain why.

5 R

2a. Insert the following symbols to make the equations correct: >, < or =

A) $\frac{5}{6} - \frac{3}{6} \ \square \ \frac{4}{6}$

B) $\frac{2}{5} + \frac{1}{5} \ \square \ \frac{3}{5}$

5 PS

2b. Insert the following symbols to make the equations correct: >, < or =

A) $\frac{3}{9} + \frac{5}{9} \ \square \ \frac{8}{9}$

B) $\frac{6}{7} - \frac{2}{7} \ \square \ \frac{3}{7}$

5 PS

3a. Complete the fractions to make the calculation correct.

$$\frac{\square}{\square} + \frac{\square}{\square} = \frac{5}{6}$$

5 PS

3b. Complete the fractions to make the calculation correct.

$$\frac{\square}{\square} - \frac{\square}{\square} = \frac{2}{9}$$

5 PS

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Reasoning and Problem Solving – Add and Subtract Fractions – Year 5 Developing

4a. Sara is calculating the missing numerator in the following calculation:

$$\frac{8}{9} - \frac{\boxed{}}{9} = \frac{5}{9}$$

I think the missing numerator must be 4.

Is she correct? Explain why.

5 R

4b. Ted is calculating the missing numerator in the following calculation:

$$\frac{\boxed{}}{7} + \frac{6}{7} = 1\frac{4}{7}$$

I think the missing numerator must be 8.

Is he correct? Explain why.

5 R

5a. Insert the following symbols to make the equations correct: >, < or =

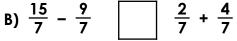A) $\frac{10}{9} - \frac{2}{9} \boxed{} \frac{4}{9} + \frac{4}{9}$

B) $\frac{3}{8} + \frac{2}{8} \boxed{} \frac{12}{8} - \frac{6}{8}$

5 PS

5b. Insert the following symbols to make the equations correct: >, < or =

A) $\frac{5}{12} + \frac{6}{12} \boxed{} \frac{15}{12} - \frac{7}{12}$

B) $\frac{15}{7} - \frac{9}{7} \boxed{} \frac{2}{7} + \frac{4}{7}$

5 PS

6a. Complete the fractions to make the calculation correct.

$$\frac{\boxed{}}{\boxed{}} + \frac{\boxed{}}{\boxed{}} = 1\frac{2}{5}$$

5 PS

6b. Complete the fractions to make the calculation correct.

$$\frac{\boxed{}}{\boxed{}} + \frac{\boxed{}}{\boxed{}} = 1\frac{4}{9}$$

5 PS

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Reasoning and Problem Solving – Add and Subtract Fractions – Year 5 Expected

7a. Asha is calculating the missing numerator in the following calculation:

$$\frac{\square}{8} + \frac{7}{8} = 1\frac{1}{2}$$

I think the missing numerator must be 5.

Is she correct? Explain why.

GD ⭐   5 R

7b. Ivor is calculating the missing numerator in the following calculation:

$$\frac{18}{12} - \frac{\square}{12} = 1\frac{1}{4}$$

I think the missing numerator must be 17.

Is he correct? Explain why.

GD ⭐   5 R

8a. Insert the following symbols to make the equations correct: >, < or =

A) $\frac{9}{11} + \frac{7}{11}$ $\square$ $\frac{22}{11} - \frac{6}{11}$

B) $\frac{14}{8} - \frac{2}{8}$ $\square$ $\frac{7}{8} + \frac{6}{8}$

GD ⭐   5 PS

8b. Insert the following symbols to make the equations correct: >, < or =

A) $\frac{6}{9} + \frac{8}{9}$ $\square$ $\frac{18}{9} - \frac{5}{9}$

B) $\frac{19}{12} - \frac{7}{12}$ $\square$ $\frac{6}{12} + \frac{8}{12}$

GD ⭐   5 PS

9a. Complete the fractions to make the calculation correct. The answer has been simplified.

$$\frac{\square}{9} + \frac{\square}{\square} = 1\frac{1}{3}$$

GD ⭐   5 PS

9b. Complete the fractions to make the calculation correct. The answer has been simplified.

$$\frac{\square}{\square} + \frac{\square}{12} = 1\frac{1}{2}$$

GD ⭐   5 PS

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Reasoning and Problem Solving – Add and Subtract Fractions – Year 5 Greater Depth

Developing

1a. Mel is incorrect as the missing numerator is 2.

2a. A) <, B) =

3a. Any combination where the numerator totals 5 e.g. $\frac{4}{6} + \frac{1}{6}$

Developing

1b. Ian is incorrect as the missing numerator is 6.

2b. A) =, B) >

3b. Any combination where the numerators give an answer of 2 when subtracted e.g. $\frac{7}{9} + \frac{5}{9}$

Expected

4a. Sara is incorrect as the missing numerator is 3.

5a. A) =, B) <

6a. Any combination where the numerators total 7 e.g. $\frac{4}{5} + \frac{3}{5}$

Expected

4b. Ted is incorrect as the missing numerator is 5.

5b. A) >, B) =

6b. Any combination where the numerators total 13 e.g. $\frac{8}{9} + \frac{5}{9}$

Greater Depth

7a. Asha is correct as the numerators must total 12.

8a. A) =, B) <

9a. Any combination where the numerators total 12 and the denominator is 9 e.g. $\frac{6}{9} + \frac{6}{9}$

Greater Depth

7b. Ivor is incorrect as the numerator must total 15 once subtracted.

8b. A) >, B) <

9b. Any combination where the numerators total 18 and the denominator is 12 e.g. $\frac{10}{12} + \frac{8}{12}$