### Reasoning and Problem Solving Step 6: Add and Subtract Fractions 2

## National Curriculum Objectives:

Mathematics Year 6: (6F2) <u>Use common factors to simplify fractions; use common multiples</u> to express fractions in the same denomination Mathematics Year 6: (6F4) <u>Add and subtract fractions with different denominators and</u> <u>mixed numbers, using the concept of equivalent fractions</u> Mathematics Year 6: (6F11) <u>Recall and use equivalences between simple fractions</u>, decimals and percentages, including in different contexts

## Differentiation:

#### Questions 1, 4 and 7 (Problem Solving)

Developing Use given digit cards to complete a calculation involving fractions where the denominators are direct multiples of the same number. Pictorial support provided.

Expected Use given digit cards to complete a calculation involving fractions where denominators may not be direct multiples of the same number.

Greater Depth Use given digit cards to complete a calculation involving fractions. Includes mixed numbers where denominators are not direct multiples of the same number, simplifying answers where possible.

#### Questions 2, 5 and 8 (Reasoning)

Developing Identify and explain the odd one out of 3 different calculations where the denominators are not always direct multiples of the same number. Pictorial support provided. Expected Identify and explain the odd one out of 3 different calculations where denominators are not direct multiples of the same number.

Greater Depth Identify and explain the odd one out of 3 different calculations. Includes mixed numbers where denominators are not direct multiples of the same number, simplifying answers where possible.

### Questions 3, 6 and 9 (Problem Solving)

Developing Select from a choice of fractions and symbols to create a calculation with a given answer where the denominators are direct multiples of the same number. Pictorial support provided.

Expected Select from a choice of fractions and symbols to create a calculation with a given answer where denominators are not direct multiples of the same number.

Greater Depth Select from a choice of fractions and symbols to create a calculation with a given answer. Includes mixed numbers where denominators are not direct multiples of the same number, simplifying answers where possible.

### More Year 6 Fractions resources.

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Reasoning and Problem Solving – Add and Subtract Fractions 2 – Year 6 Developing



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Reasoning and Problem Solving – Add and Subtract Fractions 2 – Year 6 Expected



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Reasoning and Problem Solving – Add and Subtract Fractions 2 – Year 6 Greater Depth

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### Reasoning and Problem Solving Add and Subtract Fractions 2

#### Developing

1a.  $\frac{1}{2} - \frac{1}{4} = \frac{2}{8}$ 2a.  $A = \frac{1}{2}$ ;  $B = \frac{1}{2}$ ;  $C = \frac{1}{24}$ 

C is the odd one out as it is the only

calculation where the answer does not equal  $\frac{1}{2}$ .

3a.  $\frac{2}{3} - \frac{1}{3}$ 

**Expected** 

$$4a.\frac{3}{5} - \frac{1}{4} = \frac{7}{20}$$
  
5a.  $A = \frac{5}{6}$ ;  $B = \frac{17}{20}$ ;  $C = \frac{5}{6}$ 

B is the odd one out because it is the only calculation where the answer does not equal  $\frac{5}{6}$ 6a.  $\frac{5}{4} + \frac{4}{9}$ 

Greater Depth

7a. $\frac{6}{8} + \frac{1}{3} = \frac{18}{24} = 1 \frac{1}{12}$ 8a. A =  $\frac{11}{20}$ ; B =  $\frac{35}{36}$ ; C =  $\frac{11}{20}$ 

B is the odd one out because the answer does not equal  $\frac{11}{20}$ .

9a.  $\frac{6}{10} + \frac{2}{3}$ 

### Reasoning and Problem Solving Add and Subtract Fractions 2

### Developing

1b. 
$$\frac{1}{5} + \frac{3}{15} = \frac{6}{15}$$
  
2b. A =  $\frac{7}{8}$ ; B =  $\frac{5}{9}$ ; C =  $\frac{5}{9}$ 

A is the odd one out as it is the only

calculation where the answer does not

equal 
$$\frac{5}{9}$$
.  
3b.  $\frac{3}{4} - \frac{2}{8}$ 

**Expected** 

4b.
$$\frac{3}{4} + \frac{5}{6} = \frac{19}{12} = 1\frac{7}{12}$$
  
5b. A =  $\frac{2}{15}$ ; B =  $\frac{17}{21}$ ; C =  $\frac{2}{15}$ 

B is the odd one out because it is the only calculation where the answer does not equal  $\frac{2}{15}$ 6b.  $\frac{7}{10} + \frac{1}{6}$ 

Greater Depth

7b. 
$$\frac{8}{10} - \frac{4}{6} = \frac{2}{15}$$
  
8b.  $A = \frac{17}{20}$ ;  $B = \frac{21}{20}$  or  $1 \frac{1}{20}$ ;  $C = \frac{13}{28}$ 

B is the odd one out because it is the only calculation where the answer is a mixed fraction

9b. 
$$\frac{20}{24} - \frac{3}{6}$$

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Reasoning and Problem Solving – Add and Subtract Fractions 2 ANSWERS