

# Homework/Extension

## Step 9: Mixed Addition and Subtraction

### National Curriculum Objectives:

Mathematics Year 6: (6F2) [Use common factors to simplify fractions; use common multiples to express fractions in the same denomination](#)

Mathematics Year 6: (6F3) [Compare and order fractions, including fractions  \$> 1\$](#)

Mathematics Year 6: (6F4) [Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions](#)

Mathematics Year 6: (6F11) [Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts](#)

### Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

**Developing** Match the calculations to the correct answers, where denominators are direct multiples of the same number.

**Expected** Match the calculations to the correct answers, where denominators are not always direct multiples of the same number.

**Greater Depth** Match the calculations to the correct answers, where denominators are not direct multiples of the same number. Answers will require simplifying.

Questions 2, 5 and 8 (Varied Fluency)

**Developing** Find the correct calculations, where denominators are direct multiples of the same number.

**Expected** Find the correct calculations, where denominators are not always direct multiples of the same number.

**Greater Depth** Find the correct calculations, where denominators are not direct multiples of the same number. Answers will require simplifying.

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

**Developing** Use the clues provided to find the mystery calculation, where denominators are direct multiples of the same number.

**Expected** Use the clues provided to find the mystery calculation, where denominators are not always direct multiples of the same number.

**Greater Depth** Use the clues provided to find the mystery calculation, where denominators are not direct multiples of the same number. Answers will require simplifying.

More [Year 6 Fractions](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

## Mixed Addition and Subtraction

1. Match the calculations to the correct answer below.

A.  $1 \frac{1}{5} + 1 \frac{2}{10}$

B.  $\frac{13}{8} - 1 \frac{1}{4}$

C.  $2 \frac{5}{10} - 1 \frac{2}{5}$

D.  $2 \frac{1}{2} + 1 \frac{2}{8}$

$$\frac{30}{8}$$

$$\frac{24}{10}$$

$$\frac{11}{10}$$

$$\frac{3}{8}$$



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2. Tick the correct calculations below.

A.  $2 \frac{1}{3} + 2 \frac{3}{6} = 4 \frac{5}{6}$  ☐

B.  $1 \frac{3}{4} + 2 \frac{1}{8} = 3 \frac{6}{8}$  ☐

C.  $2 \frac{6}{14} - 1 \frac{2}{7} = 1 \frac{1}{7}$  ☐

D.  $2 \frac{5}{9} - 1 \frac{1}{3} = 1 \frac{4}{9}$  ☐



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3. Use the clues below to work out the subtraction calculation.

Clue 1: The first number in the calculation is a mixed number. The whole is an even number greater than 2 and less than 10. The denominator is 4.

Clue 2: The second number in the calculation is also a mixed number. The whole is an even number. The fraction is one half.

Clue 3: The answer to the calculation is  $2 \frac{3}{12}$ .

What is the subtraction calculation? Is there more than one possible answer?



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## Mixed Addition and Subtraction

4. Match the calculations to the correct answer below.

A.  $4 \frac{1}{5} + 3 \frac{1}{2}$

B.  $3 \frac{1}{3} + 2 \frac{2}{8}$

C.  $4 \frac{3}{4} - 2 \frac{5}{10}$

D.  $5 \frac{4}{9} - 3 \frac{1}{6}$

$\frac{67}{12}$

$\frac{18}{8}$

$\frac{77}{10}$

$\frac{41}{18}$



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5. Tick the correct calculations below.

A.  $6 \frac{4}{7} - 2 \frac{1}{3} = 4 \frac{5}{21}$  ☐

B.  $5 \frac{3}{4} - 3 \frac{1}{5} = 3 \frac{2}{40}$  ☐

C.  $4 \frac{6}{9} + 4 \frac{2}{3} = 8 \frac{8}{9}$  ☐

D.  $3 \frac{4}{6} - 2 \frac{1}{4} = 1 \frac{5}{12}$  ☐



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6. Use the clues below to work out the addition calculation.

Clue 1: The answer to the calculation is a mixed number exactly half way between 5 and 6 in its simplest form.

Clue 2: One of the numbers is a mixed number with an odd whole number and the denominator is also an odd number.

Clue 3: One of the numbers is a mixed number with an even whole number and the denominator is also an even number.

What is the addition calculation? Is there more than one possible answer?



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## Mixed Addition and Subtraction

7. Match the calculations to the correct answer below.

A.  $6 \frac{3}{6} - 4 \frac{2}{7}$

B.  $8 \frac{2}{3} + 2 \frac{4}{8}$

C.  $8 \frac{3}{4} - 5 \frac{5}{7}$

D.  $4 \frac{4}{8} + 4 \frac{2}{5}$

$\frac{31}{14}$

$\frac{67}{6}$

$\frac{89}{10}$

$\frac{85}{28}$



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8. Tick the correct calculations below.

A.  $7 \frac{1}{2} + 4 \frac{4}{6} = \frac{73}{6}$  ☐

B.  $5 \frac{5}{7} - 3 \frac{2}{6} = \frac{90}{21}$  ☐

C.  $5 \frac{6}{9} + 3 \frac{3}{5} = \frac{139}{15}$  ☐

D.  $7 \frac{2}{10} - 3 \frac{4}{6} = \frac{53}{15}$  ☐



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9. Use the clues below to work out the addition calculation.

Clue 1: One of the numbers is a mixed number where the whole is an even 2-digit number. The denominator is the product of 3 and 5.

Clue 2: The answer to the calculation is a mixed number. The whole is a 2-digit prime number between 10 and 20. The denominator is a 1-digit prime number. The numerator is divisible by 2.

Clue 3: One of the numbers is a mixed number where the whole is an odd number between 2 and 9. The denominator is an odd number that is less than 10.

What is the addition calculation? Is there more than one possible answer?



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## Homework/Extension

### Mixed Addition and Subtraction

#### Developing

1.  $A = \frac{24}{10}$  ;  $B = \frac{3}{8}$  ;  $C = \frac{11}{10}$  ;  $D = \frac{30}{8}$

2. A and C are correct.

3. Various answers, for example:  $6\frac{3}{4} - 4\frac{1}{2} = 2\frac{3}{12}$  ;  $4\frac{3}{4} - 2\frac{1}{2} = 2\frac{3}{12}$

#### Expected

4.  $A = \frac{77}{10}$  ;  $B = \frac{67}{12}$  ;  $C = \frac{18}{8}$  ;  $D = \frac{41}{18}$

5. A and D are correct.

6. Various answers, for example:  $3\frac{1}{3} + 2\frac{1}{6} = 5\frac{1}{2}$  ;  $1\frac{1}{5} + 4\frac{3}{10} = 5\frac{1}{2}$  ;

$1\frac{1}{3} + 4\frac{1}{6} = 5\frac{1}{2}$  ;  $3\frac{1}{5} + 2\frac{3}{10} = 5\frac{1}{2}$

#### Greater Depth

7.  $A = \frac{31}{14}$  ;  $B = \frac{67}{6}$  ;  $C = \frac{85}{28}$  ;  $D = \frac{89}{10}$

8. A, C and D are correct.

9. Various answers, for example:  $10\frac{6}{15} + 7\frac{2}{5} = 17\frac{4}{5}$  ;  $12\frac{7}{15} + 5\frac{1}{5} = 17\frac{2}{3}$  ;

$14\frac{5}{15} + 5\frac{1}{3} = 19\frac{2}{3}$  ;  $10\frac{3}{15} + 3\frac{3}{5} = 13\frac{4}{5}$  ;  $14\frac{7}{15} + 3\frac{1}{5} = 17\frac{2}{3}$