Adding and Subtracting Fractions Homework

**Literacy**

5 ← Numerator (number)

7 ← Denominator (name/type)

Equivalent fractions have equal value.

Fractons with a common denominator have the same type (number on bottom).

**Research**

Use a calculator to complete the table:

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Calculation</th>
<th>Decimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{1}{2} )</td>
<td>1 ÷ 2</td>
<td>0.5</td>
</tr>
<tr>
<td>( \frac{2}{3} )</td>
<td>2 ÷ 3</td>
<td>0.666...</td>
</tr>
<tr>
<td>( \frac{1}{4} )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \frac{3}{5} )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \frac{4}{6} )</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Memory**

- To add or subtract fractions, they must first have a common denominator, and the answer will have the same denominator.
- Sometimes no change is necessary.
  \( \frac{1}{7} + \frac{3}{7} = \frac{4}{7} \)
- Sometimes one fraction needs to change:
  \( \frac{1}{6} + \frac{1}{2} = \frac{1}{6} + \frac{3}{6} = \frac{4}{6} = \frac{2}{3} \)
- Sometimes both need to change:
  \( \frac{1}{7} + \frac{1}{2} = \frac{2}{14} + \frac{7}{14} = \frac{9}{14} \)

**Skills**

1) \( \frac{2}{9} + \frac{5}{9} = \)

2) \( \frac{7}{12} + \frac{1}{4} = \)

3) \( \frac{2}{3} - \frac{1}{30} = \)

4) \( \frac{7}{13} + \frac{3}{26} = \)

5) \( \frac{1}{2} + \frac{1}{5} = \)

6) \( \frac{5}{8} - \frac{3}{10} = \)

7) \( \frac{7}{12} + \frac{3}{8} = \)

8) \( \frac{19}{20} - \frac{23}{30} = \)

**Stretch**

1) What is the smallest number which divides by 5 and by 3? (the lowest number that’s in the 5 times table and the 3 times table)

2) What is the smallest number which divides by 5, 3 and 10?

3) \( \frac{1}{5} + \frac{1}{3} + \frac{1}{10} = \)

Show ALL your working.

You need to read and learn the Literacy and Memory sections, look up answers to the Research section, answer all questions from the Skills section, and (unless you have already spent more than 45 minutes on this homework) attempt the Stretch section. Answers can be written on the sheet or in your book if you need more space.
**Literacy**

5 ← **Numerator** *(number)*

7 ← **Denominator** *(name/type)*

Equivalent fractions have equal value.

Fractions with a common denominator have the same type *(number on bottom)*.

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**Research**

Use a calculator to complete the table:

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Calculation</th>
<th>Decimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>1 ÷ 2</td>
<td>0.5</td>
</tr>
<tr>
<td>2/3</td>
<td>2 ÷ 3</td>
<td>0.333 ...</td>
</tr>
<tr>
<td>1/4</td>
<td>1 ÷ 4</td>
<td>0.25</td>
</tr>
<tr>
<td>3/5</td>
<td>3 ÷ 5</td>
<td>0.6</td>
</tr>
<tr>
<td>4/6</td>
<td>4 ÷ 6</td>
<td>0.666 ...</td>
</tr>
</tbody>
</table>

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**Memory**

- To add or subtract fractions, they must first have a **common denominator**, and the answer will have the same denominator.
- Sometimes no change is necessary.
  Eg: \( \frac{1}{7} + \frac{3}{7} = \frac{4}{7} \)
- Sometimes one fraction needs to change:
  Eg: \( \frac{1}{6} + \frac{1}{2} = \frac{1}{6} + \frac{3}{6} = \frac{4}{6} = \frac{2}{3} \)
- Sometimes both need to change:
  Eg: \( \frac{1}{7} + \frac{1}{2} = \frac{2}{14} + \frac{7}{14} = \frac{9}{14} \)

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**Skills**

1) \( \frac{2}{9} + \frac{5}{9} = \frac{7}{9} \)

2) \( \frac{7}{12} + \frac{1}{4} = \frac{7}{12} + \frac{3}{12} = \frac{10}{12} = \frac{5}{6} \)

3) \( \frac{2}{3} - \frac{1}{30} = \frac{20}{30} - \frac{1}{30} = \frac{19}{30} \)

4) \( \frac{7}{13} + \frac{3}{26} = \frac{14}{26} + \frac{3}{26} = \frac{17}{26} \)

5) \( \frac{1}{2} + \frac{1}{5} = \frac{5}{10} + \frac{2}{10} = \frac{7}{10} \)

6) \( \frac{5}{8} - \frac{3}{10} = \frac{25}{40} - \frac{12}{40} = \frac{13}{40} \)

7) \( \frac{7}{12} + \frac{3}{8} = \frac{14}{24} + \frac{9}{24} = \frac{23}{24} \)

8) \( \frac{19}{20} - \frac{23}{30} = \frac{57}{60} - \frac{46}{60} = \frac{11}{60} \)

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**Stretch**

1) What is the smallest number which divides by 5 and by 3? (the lowest number that’s in the 5 times table and the 3 times table)
   15

2) What is the smallest number which divides by 5, 3 and 10?
   30

3) \( \frac{1}{5} + \frac{1}{3} + \frac{1}{10} = \frac{6}{30} + \frac{10}{30} + \frac{3}{30} = \frac{19}{30} \)

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You need to read and learn the **Literacy** and **Memory** sections, look up answers to the **Research** section, answer all questions from the **Skills** section, and (unless you have already spent more than 45 minutes on this homework) attempt the **Stretch** section. Answers can be written on the sheet or in your book if you need more space.