Adding Fractions: Different Denominators

Video 133 on [www.corbettmaths.com](http://www.corbettmaths.com)

Question 1: Work out the following additions and subtractions. Give your answers as simplified fractions.

(a) \( \frac{2}{5} + \frac{1}{2} \)  
(b) \( \frac{2}{7} + \frac{1}{2} \)  
(c) \( \frac{1}{3} + \frac{1}{2} \)  
(d) \( \frac{4}{5} - \frac{2}{3} \)

(e) \( \frac{8}{9} - \frac{1}{3} \)  
(f) \( \frac{2}{3} + \frac{1}{6} \)  
(g) \( \frac{3}{10} + \frac{2}{5} \)  
(h) \( \frac{3}{8} + \frac{1}{4} \)

(i) \( \frac{7}{15} - \frac{1}{3} \)  
(j) \( \frac{3}{4} - \frac{2}{5} \)  
(k) \( \frac{3}{10} + \frac{3}{8} \)  
(l) \( \frac{2}{5} + \frac{4}{7} \)

(m) \( \frac{11}{15} - \frac{1}{6} \)  
(n) \( \frac{5}{11} + \frac{1}{4} \)  
(o) \( \frac{3}{14} + \frac{1}{3} \)  
(p) \( \frac{11}{13} - \frac{1}{2} \)

(q) \( \frac{7}{20} + \frac{2}{5} \)  
(r) \( \frac{8}{9} - \frac{3}{5} \)  
(s) \( \frac{11}{18} + \frac{1}{6} \)  
(t) \( \frac{39}{100} - \frac{7}{20} \)

(u) \( \frac{4}{15} + \frac{5}{12} \)  
(v) \( \frac{2}{3} - \frac{9}{16} \)  
(w) \( \frac{19}{30} + \frac{1}{8} \)  
(x) \( \frac{7}{12} + \frac{3}{14} \)

Question 2: Work out the following additions. Give your answers as simplified fractions. If necessary, give any answers as mixed numbers.

(a) \( \frac{3}{4} + \frac{1}{2} \)  
(b) \( \frac{5}{9} + \frac{2}{3} \)  
(c) \( \frac{7}{10} + \frac{1}{3} \)  
(d) \( \frac{4}{5} + \frac{3}{4} \)

(e) \( \frac{19}{20} + \frac{4}{5} \)  
(f) \( \frac{5}{9} + \frac{13}{18} \)  
(g) \( \frac{5}{12} + \frac{9}{10} \)  
(h) \( \frac{4}{7} + \frac{7}{8} \)

Question 3: Work out the following additions and subtractions. Give your answers as simplified fractions. If necessary, give any answers as mixed numbers.

(a) \( 1 \frac{1}{2} + \frac{2}{3} \)  
(b) \( \frac{7}{9} + 1 \frac{1}{3} \)  
(c) \( 1 \frac{3}{5} - \frac{3}{4} \)  
(d) \( 1 \frac{5}{8} - 1 \frac{1}{4} \)

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Question 1: In a car park, $\frac{2}{3}$ of the cars are red.

$\frac{1}{5}$ of the cars are blue.

What fraction of the cars are red or blue?

Question 2: This week Harry spent $\frac{1}{2}$ of his pocket money on a ticket for a football match.

He also spent $\frac{1}{8}$ of his pocket money on a scarf at the match.

(a) What fraction of his pocket money has Harry spent?

(b) What fraction of his pocket money does Harry have left?

Question 3: On an airplane, the passengers may have chicken, vegetable or tomato soup.

Half of the passengers choose chicken soup

A third of the passengers choose tomato soup.

(a) What fraction of the passengers choose vegetable soup?

There are 240 passengers on the airplane.

(b) How many passengers choose vegetable soup?

Question 4: Patrick has a bag of sugar that contains $\frac{5}{6}$ kg

He uses $\frac{3}{5}$ kg of sugar to make a cake.

How much sugar does Patrick have left?

Question 5: Work out $\frac{1}{6} + \frac{1}{2} + \frac{2}{9}$

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Question 6: Jasmine has a bottle that contains \( \frac{7}{10} \) litre of orange juice.

She pours out some orange juice and now has \( \frac{1}{4} \) litre left.

How much orange juice did Jasmine pour out?

Question 7: In school, pupils study one language.

They choose either French, Spanish or Italian.

\( \frac{3}{20} \) of the pupils study Italian and \( \frac{5}{8} \) of the pupils study French

What fraction of the pupils study Spanish?

Question 8: Shown below is a “magic square”

Each column, row and diagonal has the same total.

Work out the missing fractions.

<table>
<thead>
<tr>
<th>( \frac{1}{10} )</th>
<th>( \frac{3}{10} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{9}{20} )</td>
<td></td>
</tr>
<tr>
<td>( \frac{1}{5} )</td>
<td>( \frac{3}{20} )</td>
</tr>
</tbody>
</table>

Question 9: Lenny says \( \frac{7}{11} + \frac{2}{3} = \frac{9}{14} \)

Explain what he has done incorrectly and work out the correct answer.

Question 10: Work out the perimeter of this rectangle.

Question 11: The distance from Newtown to Milton is \( 7 \frac{2}{3} \) miles.

The distance from Milton to Redville is \( 2 \frac{2}{5} \) miles

Work out the distance from Newtown to Redville.