

Add and subtract fractions where denominators share a simple common multiple

1 Write the lowest common multiple of the pairs of numbers.

a) 3, 9 9

d) 12, 10 60

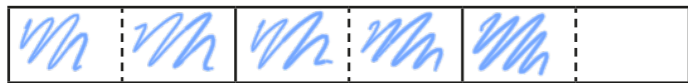
b) 6, 9 18

e) 12, 5 60

c) 6, 10 30

f) 12, 6 12

2 a) Use the bar model to show that $\frac{2}{3} + \frac{1}{6} = \frac{4}{6} + \frac{1}{6}$



What is the answer to $\frac{2}{3} + \frac{1}{6}$?

$\frac{5}{6}$

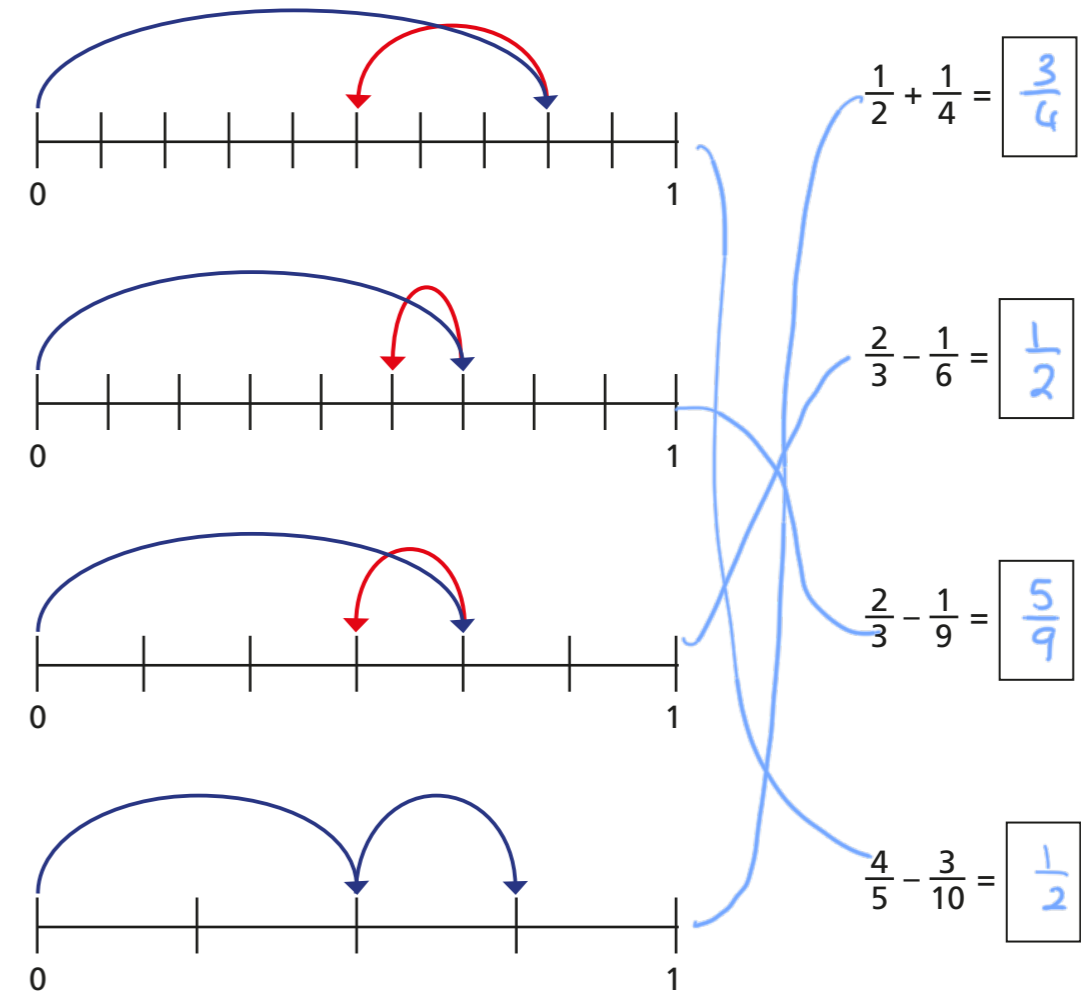
Using the same bar model, work out the answers to the calculations.

b) $\frac{5}{6} - \frac{1}{3} = \frac{1}{2}$

c) $\frac{1}{3} + \frac{1}{6} = \frac{1}{2}$

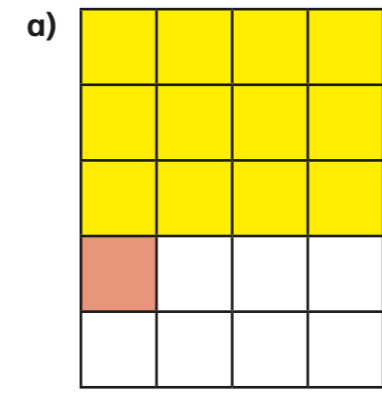
d) $\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$

3 Match the number line to the calculation and complete the calculation.

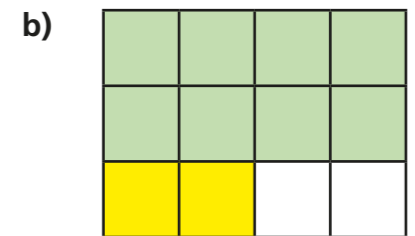


Which answers can be simplified?

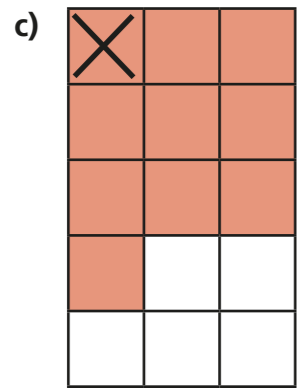
4 What fractional calculations are the arrays representing? Give all fractions in their simplest form.



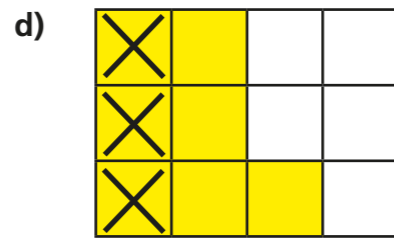
$\frac{3}{5}$ + $\frac{1}{20}$ = $\frac{13}{20}$



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



$$\frac{2}{3} - \frac{1}{15} = \frac{3}{5}$$



$$\frac{7}{12} - \frac{1}{4} = \frac{1}{3}$$

5 Circle the calculation that is equivalent to $\frac{1}{10} + \frac{1}{15}$

$$\frac{1.5}{15} + \frac{1}{15}$$

$$\frac{1}{30} + \frac{1}{30}$$

$$\frac{3}{30} + \frac{2}{30}$$

$$\frac{3}{10} + \frac{2}{15}$$

How do you know? Talk to a partner.

This is equivalent however discussion could be had around writing a decimal within a fraction.

6 Work out the calculations using equivalent fractions.

Give your answers in their simplest form.

a) $\frac{1}{6} + \frac{1}{18} = \frac{2}{9}$

e) $\frac{9}{20} + \frac{5}{10} = \frac{19}{20}$

b) $\frac{5}{9} + \frac{1}{18} = \frac{11}{18}$

f) $\frac{4}{9} + \frac{1}{6} = \frac{11}{18}$

c) $\frac{2}{3} - \frac{2}{9} = \frac{4}{9}$

g) $\frac{7}{10} - \frac{1}{4} = \frac{9}{20}$

d) $\frac{20}{21} - \frac{3}{7} = \frac{11}{21}$

h) $\frac{4}{15} + \frac{3}{10} = \frac{17}{30}$



7 Work out the calculations.
Give your answers in their simplest form.

a) $\frac{5}{18} + \frac{1}{36} + \frac{1}{6} = \frac{17}{36}$

b) $\frac{11}{12} - \frac{11}{30} - \frac{1}{5} = \frac{7}{20}$

8 Solve the equation $x + \frac{2}{3} = \frac{7}{12}$

$$x = -\frac{1}{12}$$

9 Here are some number cards.

3

6

12

15

a) What is the smallest positive answer you can make using the cards in these calculations?

You can use each card only once per calculation.

$$\frac{12}{20} - \frac{15}{30}$$

$$\frac{3}{20} + \frac{6}{30}$$

$$\frac{1}{10}$$

$$\frac{7}{20}$$

b) Where would you put the number cards to make a total of $\frac{1}{6}$?
What about a negative answer?

