

Add and subtract fractions

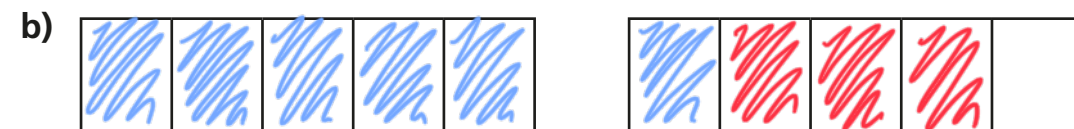


1 Complete the calculations.

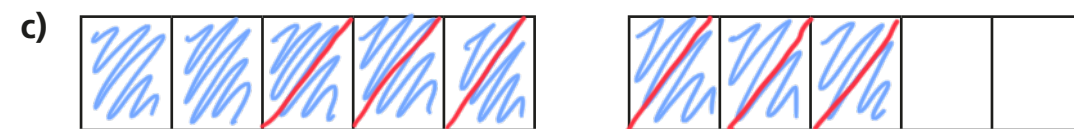
Use the bar models to help you.



$$\frac{4}{5} + \frac{3}{5} = \frac{7}{5} = 1\frac{2}{5}$$



$$\frac{6}{5} + \frac{3}{5} = \frac{9}{5} = 1\frac{4}{5}$$



$$\frac{8}{5} - \frac{6}{5} = \frac{2}{5}$$



$$\frac{9}{5} - \frac{3}{5} = \frac{6}{5} = 1\frac{1}{5}$$

2 Complete the calculations.

a) $\frac{4}{7} + \frac{2}{7} = \frac{6}{7}$

f) $\frac{17}{9} - \frac{8}{9} = \frac{9}{9} = 1$

b) $\frac{4}{7} + \frac{3}{7} = \frac{7}{7} = 1$

g) $\frac{16}{9} - \frac{8}{9} = \frac{8}{9}$

c) $\frac{4}{7} + \frac{4}{7} = \frac{8}{7} = 1\frac{1}{7}$

h) $\frac{7}{9} + \frac{2}{9} + \frac{8}{9} = \frac{17}{9} = 1\frac{8}{9}$

d) $\frac{8}{7} - \frac{3}{7} = \frac{5}{7}$

i) $\frac{7}{15} + \frac{2}{15} + \frac{8}{15} = \frac{17}{15} = 1\frac{2}{15}$

e) $\frac{7}{9} + \frac{8}{9} = \frac{15}{9} = 1\frac{2}{3}$

j) $\frac{7}{15} - \frac{2}{15} + \frac{8}{15} = \frac{13}{15}$

3

$$\frac{\boxed{}}{8} + \frac{\boxed{}}{8} = \frac{13}{8}$$

What could the missing numerators be?

Give six different possibilities.

e.g.

$$\frac{1}{8} + \frac{12}{8} = \frac{13}{8}$$

$$\frac{4}{8} + \frac{9}{8} = \frac{13}{8}$$

$$\frac{2}{8} + \frac{11}{8} = \frac{13}{8}$$

$$\frac{5}{8} + \frac{8}{8} = \frac{13}{8}$$

$$\frac{3}{8} + \frac{10}{8} = \frac{13}{8}$$

$$\frac{7}{8} + \frac{6}{8} = \frac{13}{8}$$

- 4 Dora has $2\frac{3}{8}$ litres of juice.

She pours out $\frac{9}{8}$ litres of juice.

How many litres of juice does she have left?

Dora has $1\frac{1}{4}$ litres left.

- 5 Fill in the missing numerators.

a) $\frac{3}{8} + \frac{\boxed{10}}{8} = \frac{13}{8}$

g) $\frac{4}{7} + \frac{\boxed{6}}{7} + \frac{4}{7} = 2$

b) $\frac{13}{8} - \frac{\boxed{6}}{8} = \frac{7}{8}$

h) $\frac{5}{7} + \frac{\boxed{4}}{7} + \frac{5}{7} = 2$

c) $\frac{13}{8} - \frac{\boxed{5}}{8} = 1$

i) $\frac{6}{7} + \frac{\boxed{2}}{7} + \frac{6}{7} = 2$

d) $\frac{11}{9} + \frac{\boxed{11}}{9} = \frac{22}{9} = 2\frac{\boxed{4}}{9}$

j) $\frac{14}{7} + \frac{\boxed{3}}{7} + \frac{4}{7} = 3$

e) $\frac{11}{9} + \frac{\boxed{9}}{9} = \frac{\boxed{20}}{9} = 2\frac{2}{9}$

k) $\frac{15}{7} + \frac{\boxed{1}}{7} + \frac{5}{7} = 3$

f) $\frac{22}{9} - \frac{\boxed{2}}{9} = \frac{\boxed{20}}{9} = 2\frac{2}{9}$

l) $\frac{16}{7} + \frac{\boxed{6}}{7} + \frac{6}{7} = 4$

Compare answers with a partner. What do you notice?



- 6 Here are some fraction cards.

$\frac{9}{8}$ $\frac{13}{8}$ $\frac{1}{8}$ $\frac{7}{8}$ $\frac{3}{8}$ $1\frac{7}{8}$

Use the cards to write pairs of fractions with a total of 2

$1\frac{7}{8} + \frac{1}{8} = 2$

$\frac{13}{8} + \frac{3}{8} = 2$

$\frac{9}{8} + \frac{7}{8} = 2$

- 7 Annie and Dexter both have a skipping rope.

Annie's rope is $\frac{3}{4}$ m shorter than Dexter's rope.

The ropes are $\frac{13}{4}$ m altogether.

How long is each skipping rope?

Annie's rope is $1\frac{1}{4}$ m long.

Dexter's rope is 2 m long.

