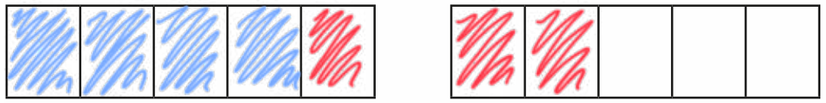
Add and subtract fractions

1 Complete the calculations.

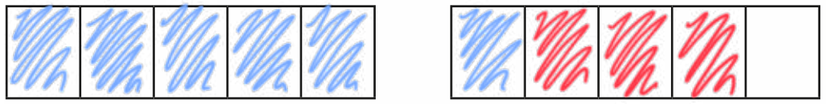
Use the bar models to help you.

a)



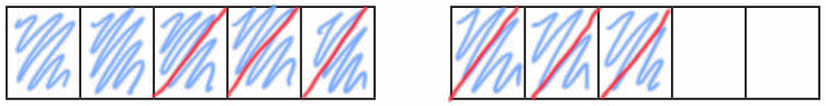
$\frac{4}{5} + \frac{3}{5} = \boxed{\frac{7}{5}} = \boxed{1\frac{2}{5}}$

b)



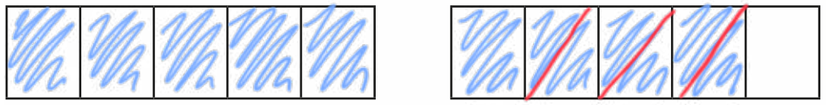
$\frac{6}{5} + \frac{3}{5} = \boxed{\frac{9}{5}} = \boxed{1\frac{4}{5}}$

c)



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

d)



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

2 Complete the calculations.

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

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

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

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

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

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

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

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

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

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

3

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

What could the missing numerators be?

Give six different possibilities.

e.g.

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

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

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

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

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

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

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 $\boxed{1\frac{1}{4}}$ litres left.

5 Fill in the missing numerators.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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 $\boxed{1\frac{1}{4}}$ m long.

Dexter's rope is $\boxed{2}$ m long.