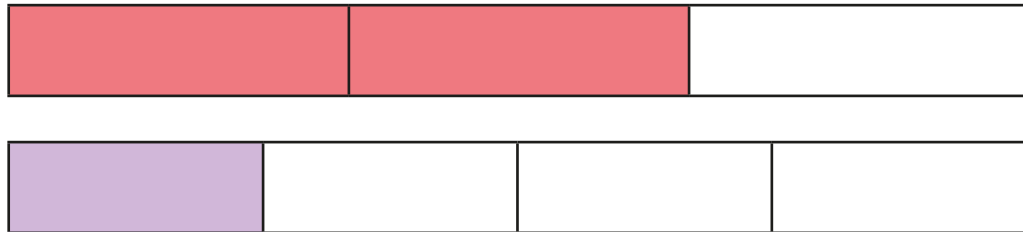


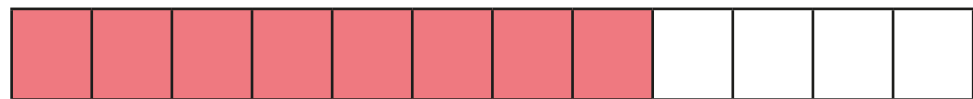
# Add and subtract fractions (2)

- 1 Amir is using fraction strips to work out  $\frac{2}{3} + \frac{1}{4}$



Amir says he needs to find a common denominator.

- a) Complete Amir's method.



$$\frac{2}{3} = \frac{8}{12}$$



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

$$\frac{2}{3} + \frac{1}{4} = \frac{8}{12} + \frac{3}{12} = \frac{11}{12}$$

- b) Show the addition on the fraction strip.



- c) Could you have used a different denominator?

- 2 What common denominator can you use to add the fractions?

a)  $\frac{2}{5} + \frac{1}{2}$  Common denominator = 10

b)  $\frac{2}{3} + \frac{4}{5}$  Common denominator = 15

c)  $\frac{7}{8} - \frac{1}{4}$  Common denominator = 8

d)  $\frac{7}{9} - \frac{1}{6}$  Common denominator = 18

e)  $\frac{11}{15} + \frac{3}{10}$  Common denominator = 30

- 3 Ron and Eva are working out  $\frac{1}{4} + \frac{5}{6}$

Ron's method

$$\frac{1}{4} + \frac{5}{6} = \frac{3}{12} + \frac{10}{12} = \frac{13}{12}$$

Eva's method

$$\frac{1}{4} + \frac{5}{6} = \frac{6}{24} + \frac{20}{24} = \frac{26}{24}$$

- a) What is the same about Ron's and Eva's methods?

They both found a common denominator.

- b) What is different about their methods?

They used a different common denominator.

- c) Which method do you prefer? Why?





4 Complete the calculations.

a)  $\frac{1}{5} + \frac{3}{4} = \boxed{\frac{19}{20}}$

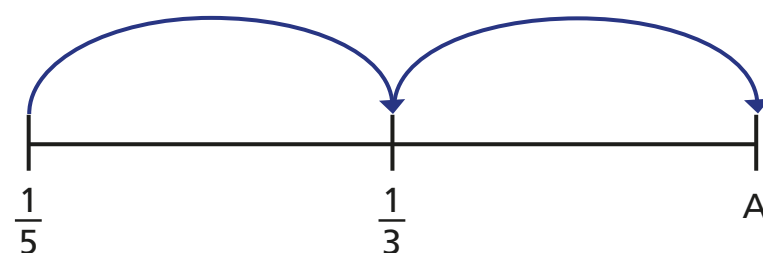
c)  $\frac{1}{2} - \frac{1}{7} = \boxed{\frac{5}{14}}$

b)  $\frac{7}{8} - \frac{1}{3} = \boxed{\frac{13}{24}}$

d)  $\frac{11}{18} + \frac{7}{12} = \boxed{1\frac{7}{36}}$

5 Mo is drawing jumps on a number line.

The jumps are the same size.



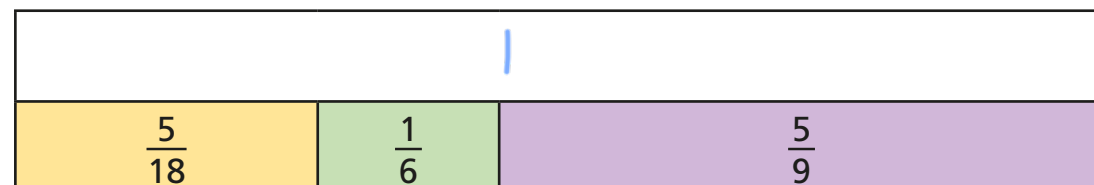
a) What is the size of the jump?

$\boxed{\frac{2}{15}}$

b) What is the value of A?

$\boxed{\frac{7}{15}}$

6 Complete the bar model.



7 Complete the additions.

Give your answers as mixed numbers and as improper fractions.

a)  $\frac{4}{5} + \frac{5}{4} = \boxed{\frac{41}{20}} = \boxed{2\frac{1}{20}}$  c)  $\frac{9}{8} + \frac{8}{9} = \boxed{\frac{145}{72}} = \boxed{2\frac{1}{72}}$

b)  $\frac{2}{3} + \frac{3}{2} = \boxed{\frac{13}{6}} = \boxed{2\frac{1}{6}}$  d)  $\boxed{2\frac{4}{15}} = \boxed{\frac{34}{15}} = \frac{5}{3} + \frac{3}{5}$

What patterns do you notice?

8 Look at these additions.

$\frac{1}{2} + \frac{1}{3} = \boxed{\phantom{00}}$

$\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \boxed{\phantom{00}}$

$\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} = \boxed{\phantom{00}}$

a) When does this pattern first give an answer greater than 2?

$\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{7} + \frac{1}{8} + \frac{1}{9} + \frac{1}{10} + \frac{1}{11}$

b) Do you think the pattern will ever give an answer greater than 100?

