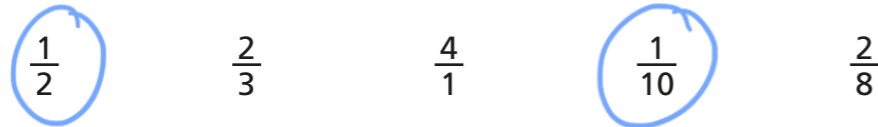
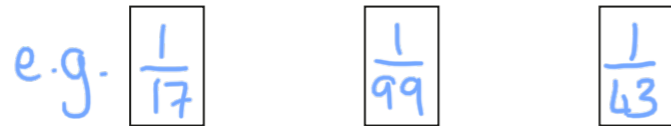


# Add and subtract unit fractions with the same denominator

1 a) Circle the unit fractions.



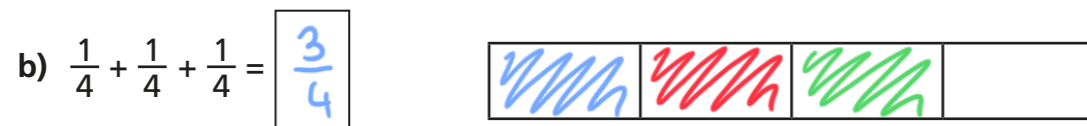
b) Write three more unit fractions.



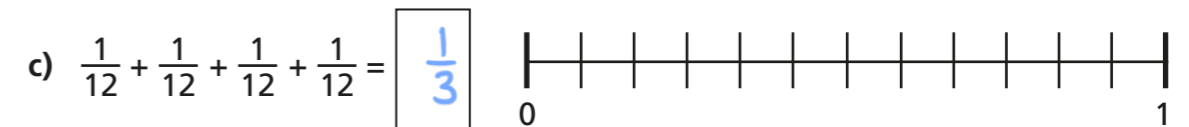
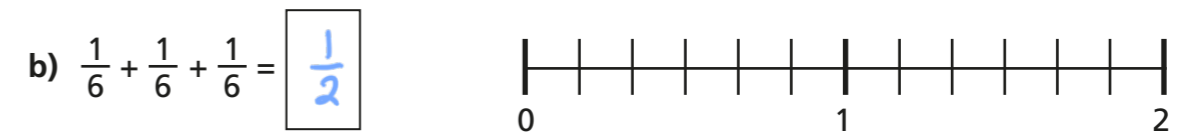
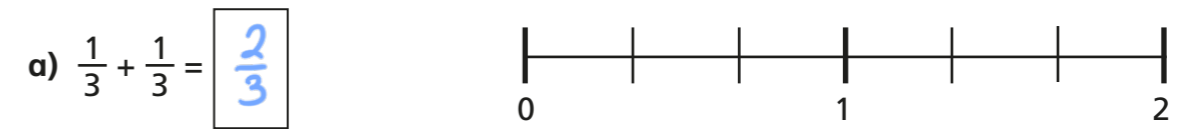
c) Describe, in your own words, what is meant by a unit fraction.

A fraction where the numerator is equal to 1

2 Use the bar models to help you with the calculations.



3 Use the number lines to help you with the calculations.



4 Write the fractions as sums of unit fractions.

a)  $\frac{2}{3} = \frac{1}{3} + \frac{1}{3}$

b)  $\frac{2}{7} = \frac{1}{7} + \frac{1}{7}$

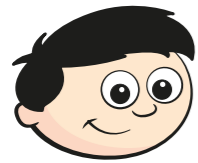
c)  $\frac{3}{7} = \frac{1}{7} + \frac{1}{7} + \frac{1}{7}$

d)  $\frac{3}{14} = \frac{1}{14} + \frac{1}{14} + \frac{1}{14}$

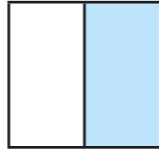
e)  $\frac{4}{14} = \frac{1}{14} + \frac{1}{14} + \frac{1}{14} + \frac{1}{14}$

f)  $\frac{7}{14} = \frac{1}{14} + \frac{1}{14} + \frac{1}{14} + \frac{1}{14} + \frac{1}{14} + \frac{1}{14} + \frac{1}{14}$

5



$\frac{1}{2}$  cannot be written as the sum of unit fractions because it is already a unit fraction.



Is Dexter correct? NO

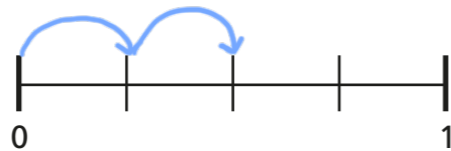
Explain your reasoning.

$$\frac{1}{2} = \frac{1}{4} + \frac{1}{4}$$

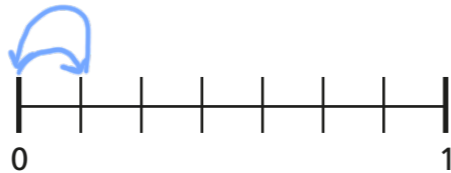
6

Fill in the missing denominators and show the calculations on the number lines.

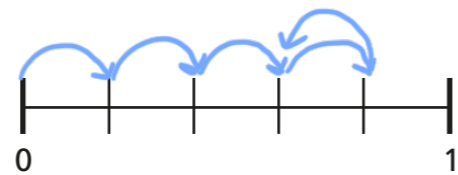
a)  $\frac{1}{\boxed{4}} + \frac{1}{\boxed{4}} = \frac{2}{4}$



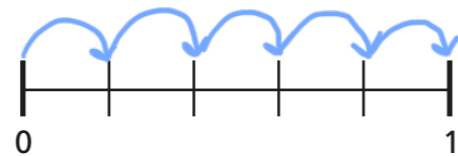
b)  $\frac{1}{\boxed{7}} - \frac{1}{\boxed{7}} = \frac{0}{7}$



c)  $\frac{3}{5} = \frac{1}{\boxed{5}} + \frac{1}{\boxed{5}} + \frac{1}{\boxed{5}} + \frac{1}{\boxed{5}} - \frac{1}{\boxed{5}}$



d)  $\frac{5}{5} = \frac{1}{\boxed{5}} + \frac{1}{\boxed{5}} + \frac{1}{\boxed{5}} + \frac{1}{\boxed{5}} + \frac{1}{\boxed{5}}$



What do you notice about part d)? Discuss with a partner.

7

Complete the calculations by adding or subtracting unit fractions.

a)  $\frac{3}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

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

c)  $\frac{9}{9} = \frac{1}{9} + \frac{1}{9} + \frac{1}{9} + \frac{1}{9} + \frac{1}{9} + \frac{1}{9} + \frac{1}{9} + \frac{1}{9} + \frac{1}{9}$

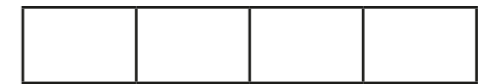
d)  $\frac{0}{6} = \frac{1}{6} + \frac{1}{6} - \frac{1}{6} - \frac{1}{6}$

8

Complete the addition and the sentences to show how you can use unit fractions to make a whole.

Use the bar models to help.

a)  $\frac{4}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$



You need to add  $\frac{1}{4}$   $\boxed{4}$  times to make a whole.

b)  $\frac{6}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$



You need to add  $\frac{1}{6}$   $\boxed{6}$  times to make a whole.

c)  $\frac{20}{20} = \frac{1}{20} + \frac{1}{20} + \dots + \frac{1}{20}$



You need to add  $\frac{1}{20}$   $\boxed{20}$  times to make a whole.

Why is it not suitable to draw a bar model for part c)?

