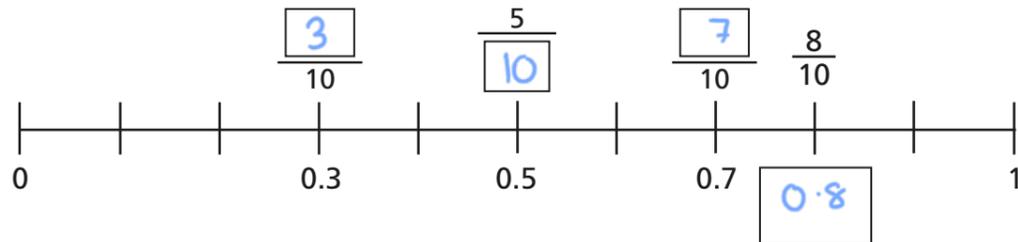


# Use equivalence to add and subtract decimals and fractions



1 a) Fill in the boxes on the number line.



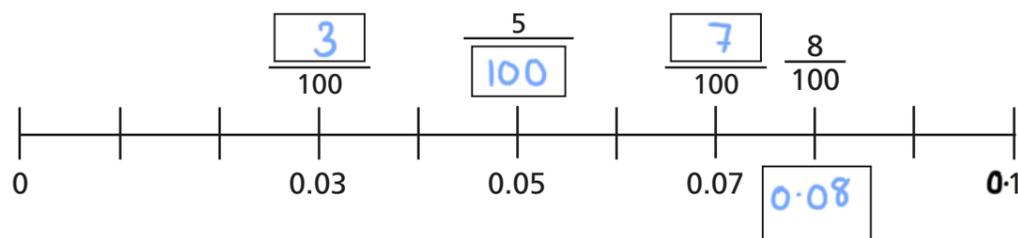
b) Work out the calculations.

Give your answers as decimals.

You could use the number line to help you.

$$\frac{3}{10} + 0.5 = \boxed{0.8} \quad 1 - \frac{8}{10} = \boxed{0.2} \quad \frac{7}{10} + 0.3 = \boxed{1}$$

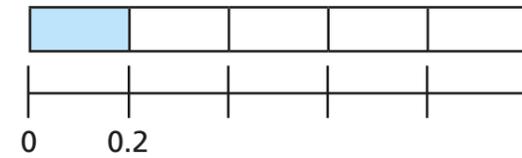
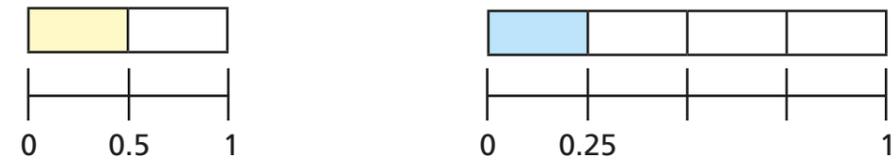
2 a) Fill in the boxes on the number line.



b) Work out the calculations. Give your answers as decimals.

$$0.05 + \frac{3}{100} = \boxed{0.08} \quad 0.1 - \frac{8}{100} = \boxed{0.02}$$

3 Here are some bar models drawn above number lines.



a) Write each decimal as a fraction. You could use the bar models to help you.

$$0.5 = \boxed{\frac{1}{2}} \quad 0.25 = \boxed{\frac{1}{4}} \quad 0.2 = \boxed{\frac{1}{5}}$$

b) Use the number lines and your answers to part a) to work out the calculations.

Give your answers as decimals.

$$0.1 + \frac{1}{2} = \boxed{0.6} \quad \frac{1}{5} + 0.5 = \boxed{0.7} \quad 0.90 - \frac{1}{4} = \boxed{0.65}$$

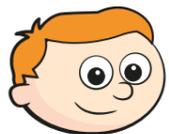
4 a) Work out  $0.3 + \frac{3}{5}$   
Give your answer as a decimal.

$$\boxed{0.9}$$

b) Work out  $\frac{1}{6} + 0.75$   
Give your answer as a fraction.

$$\boxed{\frac{11}{12}}$$

5 Ron and Whitney are working out the calculation  $\frac{3}{4} - 0.2$



I am going to start by converting  $\frac{3}{4}$  to a decimal.

I am going to convert 0.2 to a fraction.



Ron's method

$$\frac{3}{4} = 0.75$$

$$0.75 - 0.2 = 0.73$$

Whitney's method

$$0.2 = \frac{1}{5}$$

$$\frac{3}{4} - \frac{1}{5} = \frac{15}{20} - \frac{4}{20} = \frac{11}{20}$$

a) What mistake has Ron made?

He has subtracted 2 hundredths not 2 tenths.

b) Convert Whitney's answer to a decimal.

0.55

6 Work out the calculations. Give your answers as decimals.

a)  $0.6 - \frac{1}{2}$

0.1

c)  $0.65 - \frac{1}{4}$

0.6

b)  $0.7 - \frac{1}{5}$

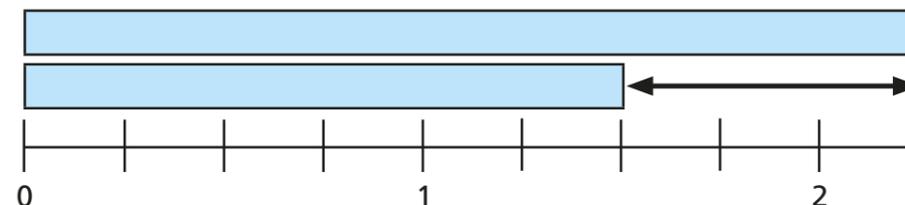
0.5

d)  $\frac{9}{10} - 0.25$

0.65

Did you convert the fraction to a decimal before or after doing the calculation? Compare methods with a partner.

7 Here is a representation of a calculation.



Which of these is **not** the calculation shown? Circle your answer.

$\frac{9}{4} - 1.5$

2.1 - 1 $\frac{1}{2}$

2.25 -  $\frac{3}{2}$

2 $\frac{5}{20}$  - 1.50

8 The same digit is missing from each box.

Which digits would give a terminating answer?

e.g.  $0.\boxed{2} + \frac{1}{\boxed{2}}$

Can you explain why some digits don't give a terminating decimal?