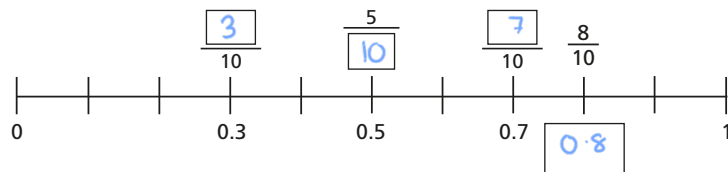


Use equivalence to add and subtract decimals and fractions

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



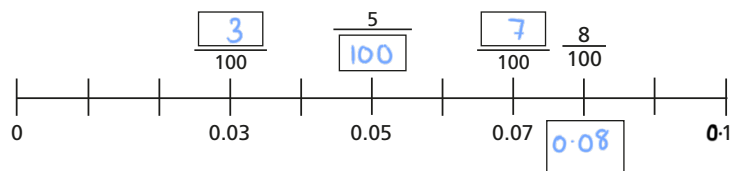
- b) Work out the calculations.

Give your answers as decimals.

You could use the number line to help you.

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

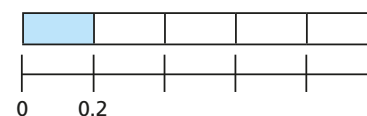
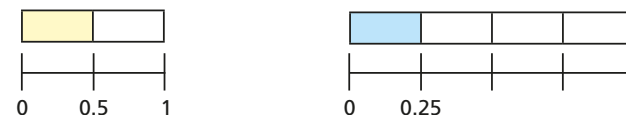
- 2 a) Fill in the boxes on the number line.



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

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

- 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.

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

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

Give your answers as decimals.

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

- 4 a) Work out $0.3 + \frac{3}{5}$

Give your answer as a decimal.

$$\frac{3}{5} = \frac{6}{10} = 0.6$$

$$0.3 + 0.6 = 0.9$$

$$0.9$$

- b) Work out $\frac{1}{6} + 0.75$

Give your answer as a fraction.

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

$$\frac{1}{6} + \frac{3}{4} = \frac{2}{12} + \frac{9}{12} = \frac{11}{12}$$

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

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

0.6 - 0.5

0.1

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

0.65 - 0.25

0.4

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

0.7 - 0.2

0.5

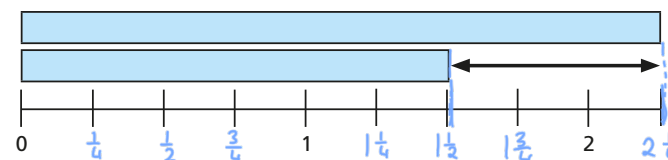
d) $\frac{9}{10} - 0.25$

0.9 - 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?