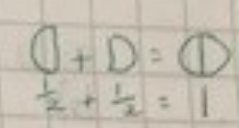
1. a) 40 meatballs is twice as many so I need to double (×2) all of the ingredients.

500 g minced beef
200 g minced pork
1 onion ← ½ × 2 = 1
150 g breadcrumbs.



b) 10 meatballs is half the amount on the recipe so I need to half (÷2) the ingredients.

125 g minced beef
50 g minced pork
¼ onion ← ½ ÷ 2 = ¼
37·5 g breadcrumbs.

$$2\overline{)7\,5\,{}^{1}0} \quad 37{\cdot}5$$

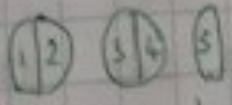
c) Here are a couple ways you could solve.

- In part b) we worked out 10 portions. So to get 100 we could multiply the part b) answers by 10 because $10 \times 10 = 100$.

- The original recipe was for 20 meatballs. We want 100. $20 \times 5 = 100$. So we could multiply the ingredients in the original recipe by 5.

1250 g minced beef
500 g minced pork
2½ onions ← Original recipe = ½ onion.
375 g breadcrumbs

$\frac{1}{2} \times 5 = 2\frac{1}{2}$

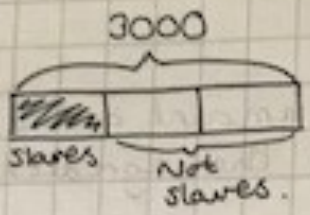


2½.

2 a) There are lots of possibilities. Here are some.

$\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15} = \frac{6}{18} = \frac{7}{21} = \frac{8}{24} = \frac{9}{27} = \frac{10}{30}$.

b)

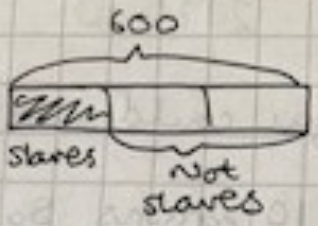


$3000 \div 3 = 1000$.

Each part of my bar model is worth 1000 people.

If there were 3000 people, 1000 would be slaves, 2000 would not.

c)

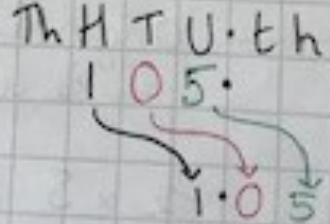


$600 \div 3 = 200$.

Each part of my bar model is now worth 200 people.

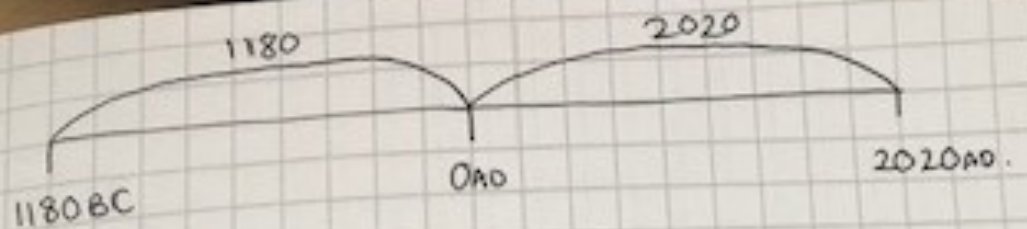
If there were 600 people, 200 would be slaves, 400 would not.

3. There are 100 cm in a m. (Remember cent means 100). To divide by 100, we move the digits two places to the right.



I can see that 105 cm is the same as 1.05 m so Betty is correct.

4.



$$\begin{array}{r} 1180 \\ +\ 2020 \\ \hline 3200 \\ \hline 1 \end{array}$$

This event happened 3200 years ago.

5. a)
$$\begin{array}{r} {}^{7}\cancel{8},{}^{8}\cancel{8}\,{}^{8}48 \\ -\ \ \ 978 \\ \hline 7870 \end{array}$$

The difference between the height of Mount Everest and Scarfell Pike is 7,870m.

b)
$$\begin{array}{r} {}^{1}\cancel{2},{}^{8}\cancel{9}\,{}^{8}18 \\ -\ \ \ 978 \\ \hline 1,940 \end{array}$$

The difference between the height of Mount Olympus and Scarfell Pike is 1,940m.
Mount Olympus is 1,940m taller than Scarfell Pike.

c)
$$\begin{array}{r} 8,848 \\ +\ 2,918 \\ +\ \ \ 978 \\ \hline 12,744 \\ \hline 2\ 1\ 2 \end{array}$$

All three mountains together would be 12,744m tall.

There are 1000m in a km. To convert we need to divide by 1000 which means moving the digits three places to the right.

TTh	Th	H	T	U	t	h	th
1	2	, 7	4	4	•		
	1	2	• 7	4	4		

So they would be 12.744km tall.