Maths

Calculation Policy

Fractions

2024

EYFS

- I can say numbers in words in a sequence

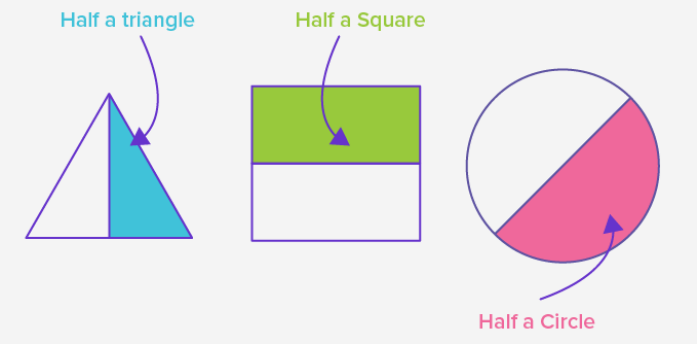
Year One

- I understand that fractions are equal parts of a whole
- I know one half is one part of two equal parts of a whole
- I know if the parts aren't equal, then it isn't a half
- I can write the symbol for one half

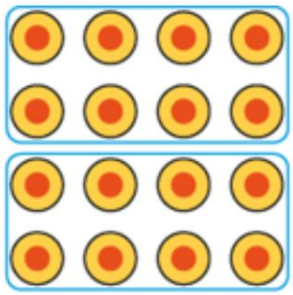
Add in Image 1

- I can find one half of an object
(pizza, cake, box, table etc)

- I can find one half of a shape



- I can find one half of a quantity using concrete resources

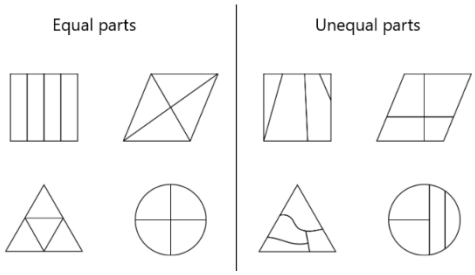


Any concrete resources can be used.

- I can write simple fractions (one half)

$\frac{1}{2}$ of 6 = 3

- I know one quarter is one part of four equal parts of a whole
- I know if the parts aren't equal, then it isn't a quarter



- I can write the symbol for one quarter
- I can find one quarter of an object
(pizza, cake, box, table etc)
- I can find one quarter of a shape
- I can find one quarter of a quantity using concrete resources
- I can write simple fractions (one quarter)

$\frac{1}{2}$ of 6 = 3

Year Two

- I know one third is one part of three equal parts of a whole
- I know if the parts aren't equal, then it isn't a third

- I can write the symbol for one third

- I can find one third of an object
(pizza, cake, box, table etc)

- I can find one third of a shape

- I can find one third of a quantity using concrete resources

- I can write simple fractions (one third)

$\frac{1}{2}$ of 6 = 3

- I know the unit fraction one quarter is one part of four equal groups

- I know two quarters is two parts of four equal groups

- I can write the symbol for two quarters

- I can find two quarters of an object, shape and quantity using concrete resources

- I can recognise the equivalence of one half and one quarter

- I know three quarters is three parts of four equal groups

- I can write the symbol for three quarters

- I can find three quarters of an object, shape and quantity using concrete resources

Year Three

Recap of tenths from place value unit

- I understand the meaning of the numerator and denominator

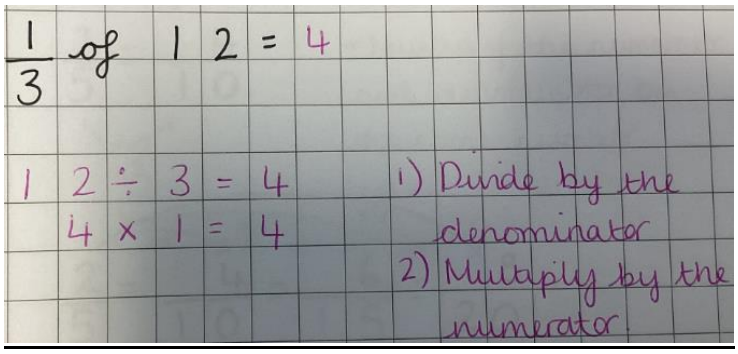
- I know that the line in a fraction means divide

- I understand that unit fractions are one part of the whole

- I can order and compare unit fractions

- I can place unit fractions on a numberline

- I can find a unit fraction of an amount using division facts

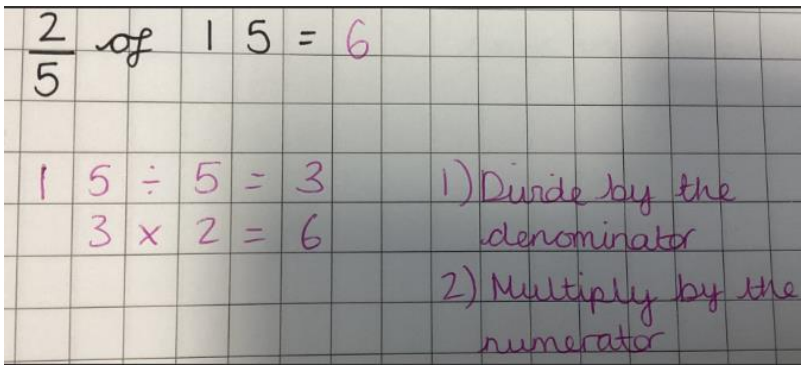


- I understand that non-unit fractions are more than one part of the whole

- I can order and compare non-unit fractions with the same denominator

- I can place non-unit fractions with the same denominator on a numberline

- I can find non-unit fractions of an amount using division facts
(small denominators → 2,5,10,3,4)

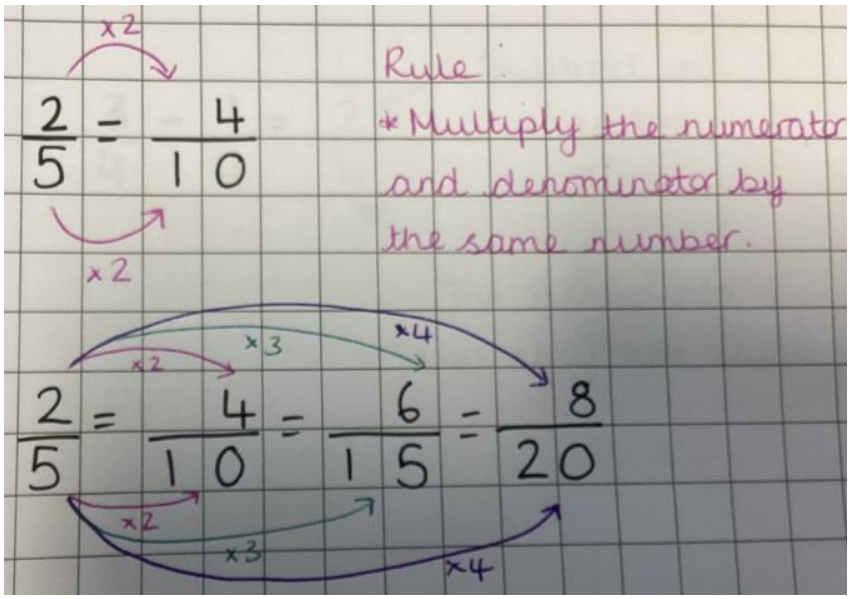


- I can recognise that one whole is equivalent to two halves, three thirds and four quarters

- I can use my multiples to identify how many parts are in a given whole
3 x 5 = 15 so there are 15 fifths in 3 wholes.

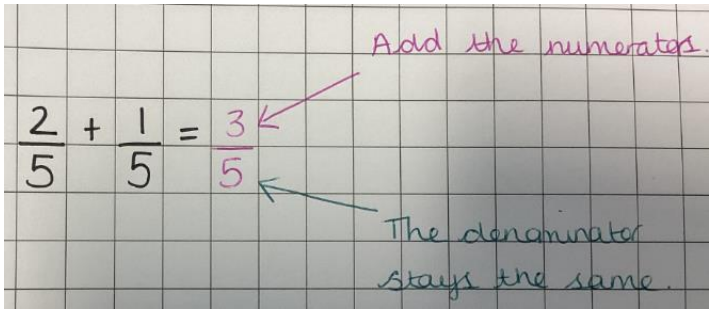
- I can find equivalent fractions using a bar model

🗝 I can find equivalent fractions using my knowledge of multiplication
e.g → 2/5 = 4/10



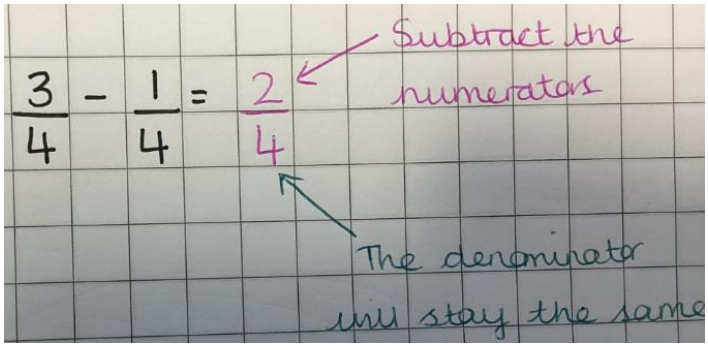
🗝 I add fractions with the same denominator within a whole

Use concrete resources and images to support.



🗝 I subtract fractions with the same denominator within a whole

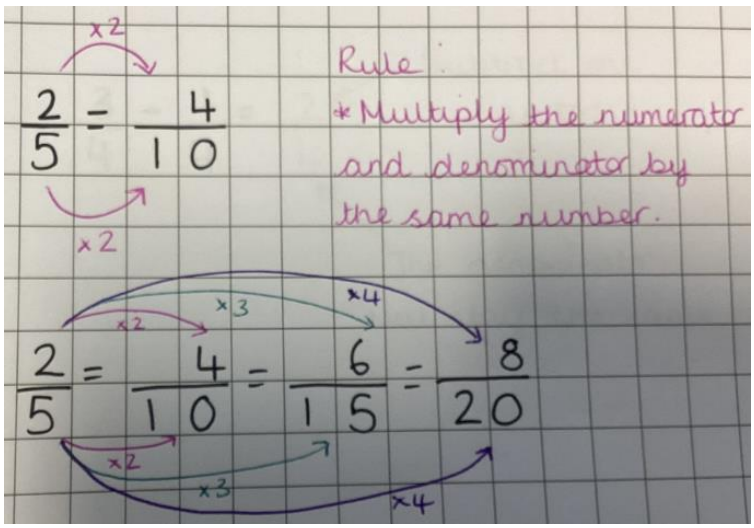
Use concrete resources and images to support.



🗝 I can solve problems that involve all of the above

Year Four:

- **I understand the meaning of the numerator and denominator**
- **I know that the line in a fraction means divide**
- **I understand that unit fractions are one part of the whole**
- I can find equivalent fractions using a bar model
- I can find equivalent fractions using my knowledge of multiplication
- I know that equivalent fractions are equal to one another
- I know common equivalent fractions
  e.g → one half is equivalent to two quarters
- I can find families of equivalent fractions



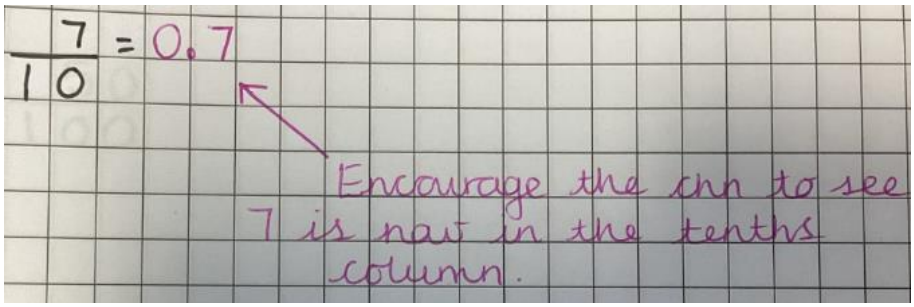
- I know that the line in a fraction means divide
- I can find a unit fraction of an amount using division facts
- I understand that non-unit fractions are more than one part of the whole
- I can find non-unit fractions of an amount using division facts
  (For all timetables)
- I add fractions with the same denominator within a whole

- I subtract fractions with the same denominator within a whole
- I add fractions with the same denominator within a whole
- I subtract fractions with the same denominator within a whole

Recap of tenths and hundredths from place value unit

- I know the decimal equivalence to a fraction when the denominator is 10

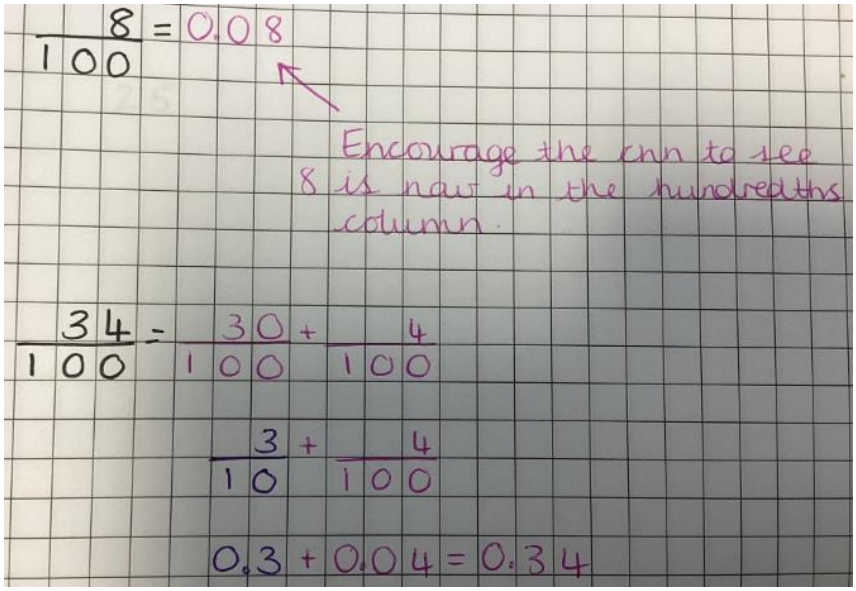
1. place value charts
2. tens frame



Link to division → the line in a fraction means divide so it represents 7 divided by 10.

- I know the decimal equivalence to a fraction when the denominator is 100

1. place value charts
2. hundreds square (a full row represents 1 tenth, a single square represent 1 hundredth)



Link to division → the line in a fraction means divide so it represents 8 divided by 100.

- I know half of 100 is 50 and can apply this to finding decimal equivalence of $\frac{1}{2}$

Use a hundred square
Link → money

- I know one quarter of 100 is 25 and can apply this to finding decimal equivalence of $\frac{1}{4}$

Use a hundred square
Link → money

- I know three quarters of 100 is 75 and can apply this to finding decimal equivalence of $\frac{3}{4}$

Use a hundred square
Link → money

- I can solve simple measure and money word problems using the above

Recap of comparing and ordering tenths and hundredths from place value unit

- I can identify the whole before and after a number with one decimal place
- I can find the midpoint between two whole numbers

1. Number line

Find the midpoint between 11 and 12.

What's the difference between 11 and 12? 1

What would halfway be? $1 \div 2 = \frac{1}{2} = 0.5$

So, 0.5 more than 11 is 11.5

- I can place a number with one decimal place on a number line using the midpoint as a guide

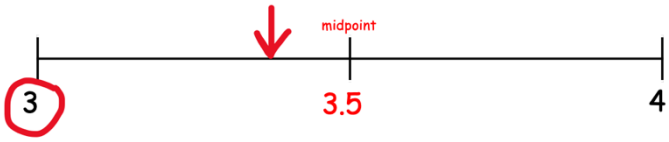
1. Draw a number line
2. Find the whole before and after
3. Find the midpoint
4. Estimate where it would be

Place 5.7

I can round numbers with one decimal place to the nearest whole

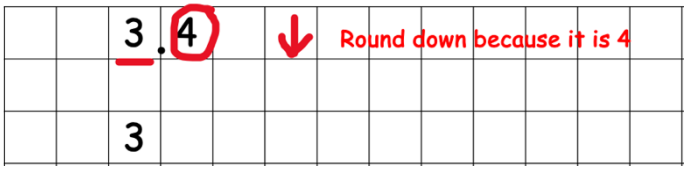
1. Number line method:
   a. Draw number line
   b. Add the whole before and after
   c. Find the midpoint
   d. Place your number
   e. Which whole is it closest to?

Round 3.4 to the nearest whole.



2. Rule:
   a. Underline the digit in the place value column you are rounding to (in this case, the ones because whole means no decimal places)

Round 3.4 to the nearest whole.

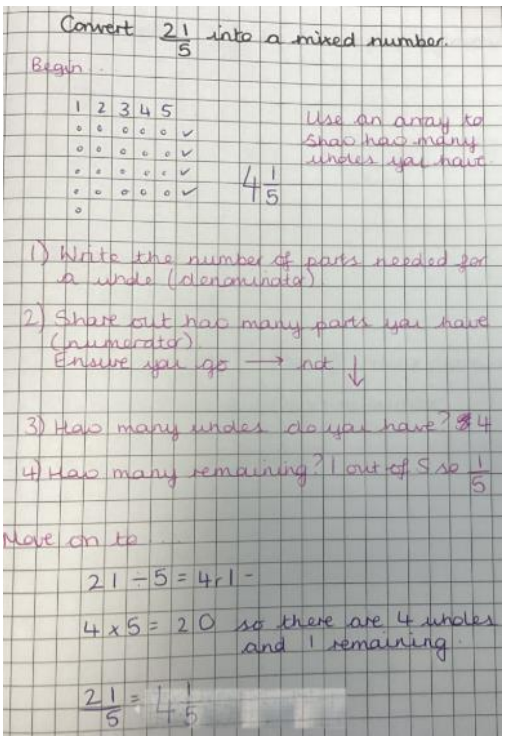


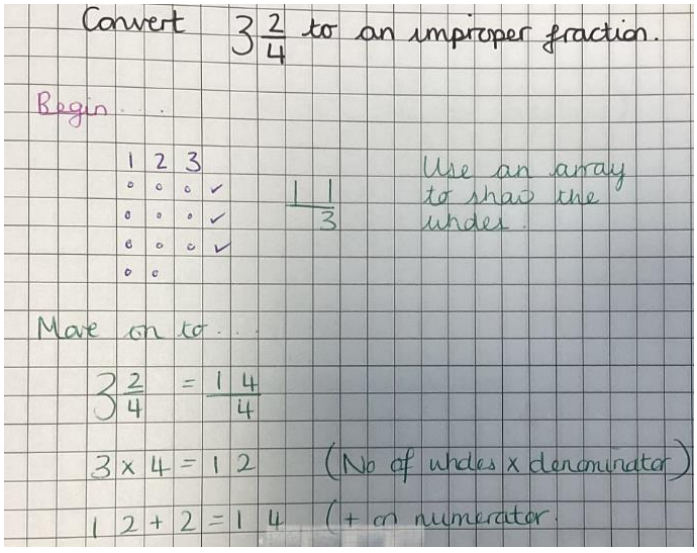
   b. Circle the digit in the place value column to the right (in this case, the tenths)
   c. If the circled digit is 0, 1, 2, 3 or 4, round down to the previous multiple of 10 → the underline digit stays the same and everything to the right becomes a 0 HOWEVER, WHEN ROUNDING TO THE NEAREST WHOLE, WE DON'T PUT 0S AFTER THE ONES AS THE NUMBER WOULD NO LONGER BE WHOLE.
   d. If the circled digit is 5, 6, 7, 8 or 9, round up to the next multiple of 10 → the underlined digit goes up by one and everything to the right becomes 0 HOWEVER, WHEN ROUNDING TO THE NEAREST WHOLE, WE DON'T PUT 0S AFTER THE ONES AS THE NUMBER WOULD NO LONGER BE WHOLE.

I can solve simple measure and money word problems using the above

Year Five:

- I understand the meaning of the numerator and denominator
- I know that the line in a fraction means divide
- I understand that unit fractions are one part of the whole
- I know that a proper fraction is less than 1
- I know that fractions can be greater than 1
- I know that an improper fraction has a larger numerator than denominator and represents where there are more parts than needed to make a whole
- I know that a mixed number represents a whole number and a fraction
- I can convert between an improper fraction and a mixed number using my knowledge of multiples of the denominator

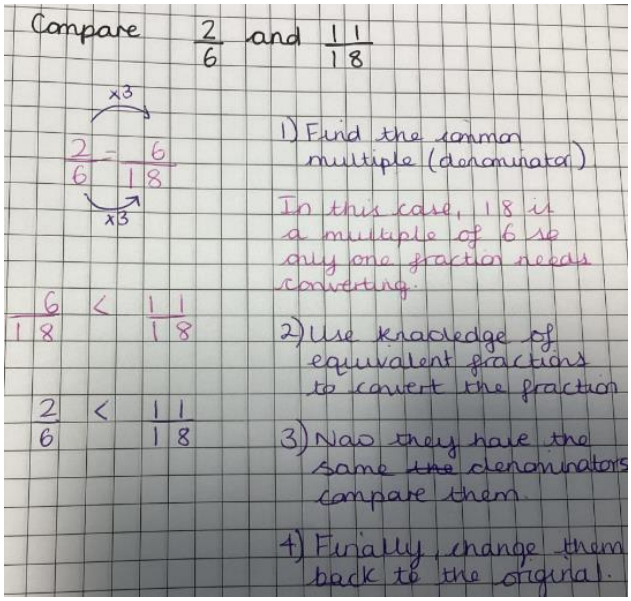




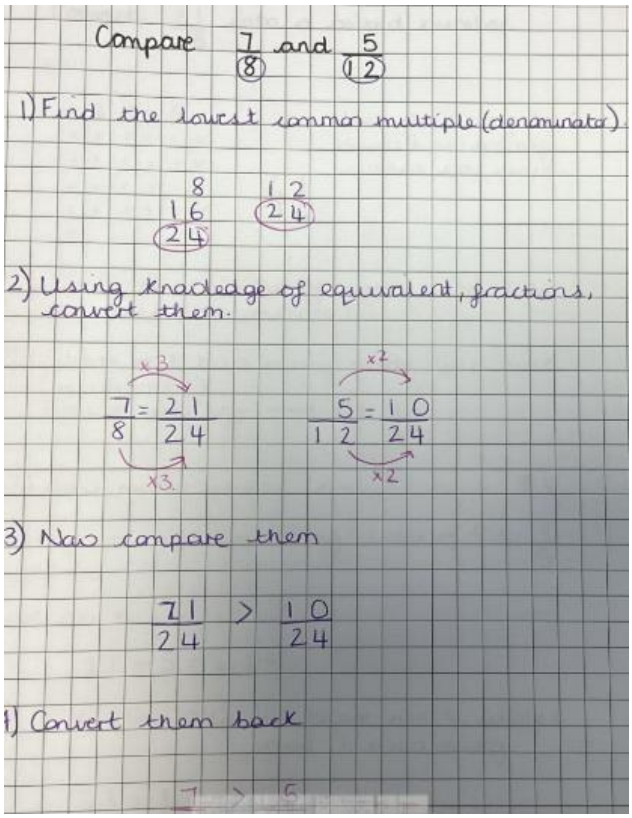
- I know that equivalent fractions are equal to one another
- I know common equivalent fractions
  e.g → one half is equivalent to two quarters
- I can find families of equivalent fractions

- I can find equivalent fractions using my knowledge of multiplication

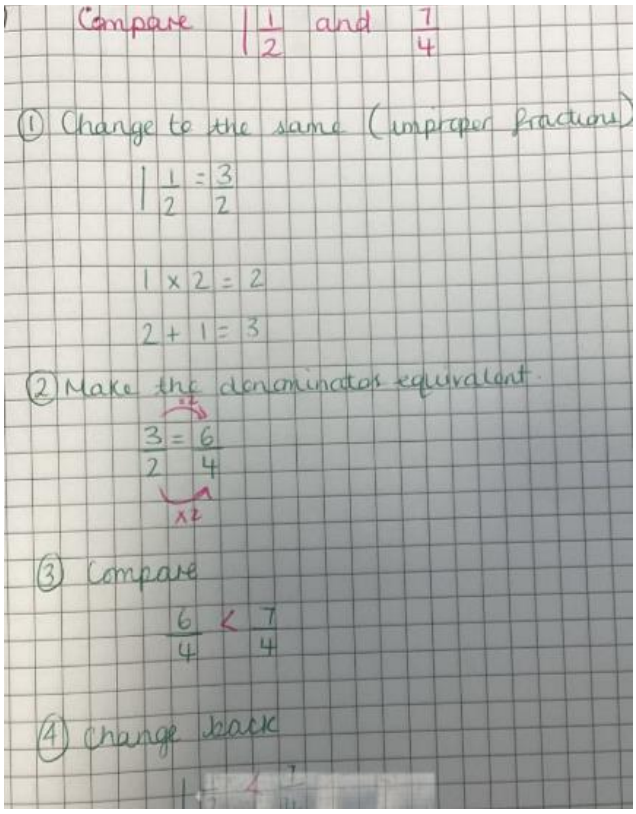
- I can compare and order fractions whose denominators are all multiples of the same number



- I can compare and order fractions whose denominators are all factors of the same number



- I compare mixed numbers and improper fractions



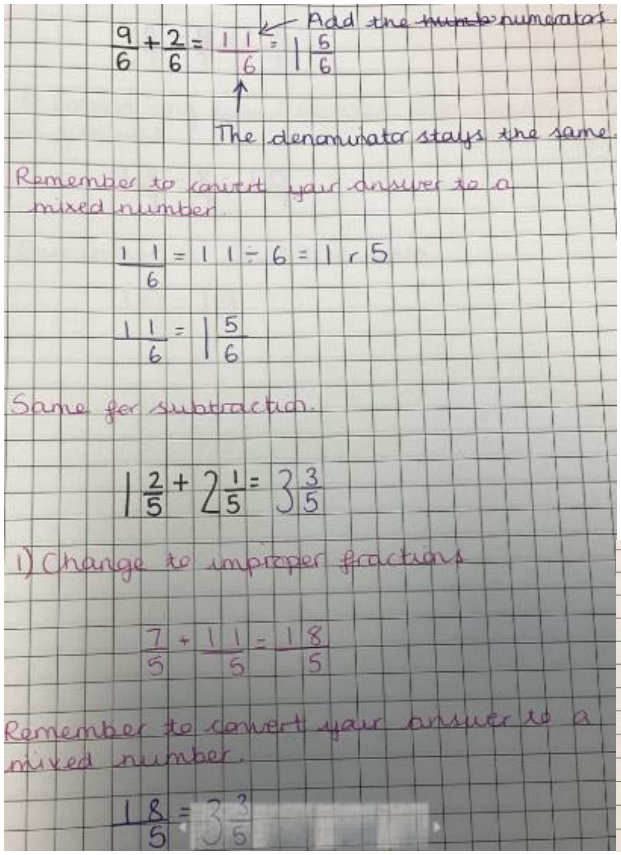
- I can find non-unit fractions of an amount using division facts ***(For all timetables)***

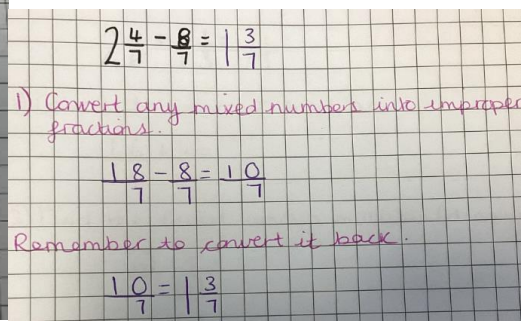
- I can find a fraction of an amount

- I add fractions with the same denominator within a whole

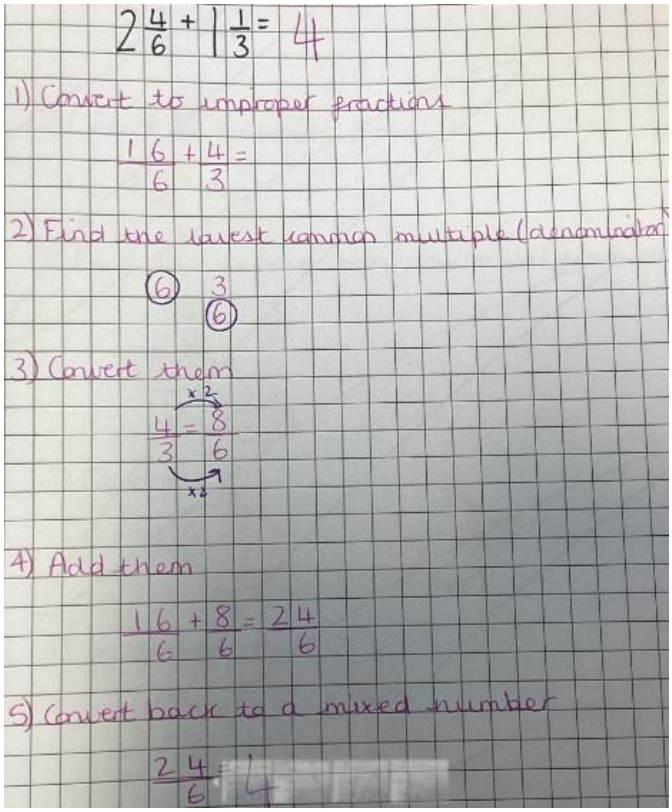
- I can subtract fractions with the same denominator within a whole

- I can add and subtract fractions with the same denominator (including improper fractions and mixed numbers)

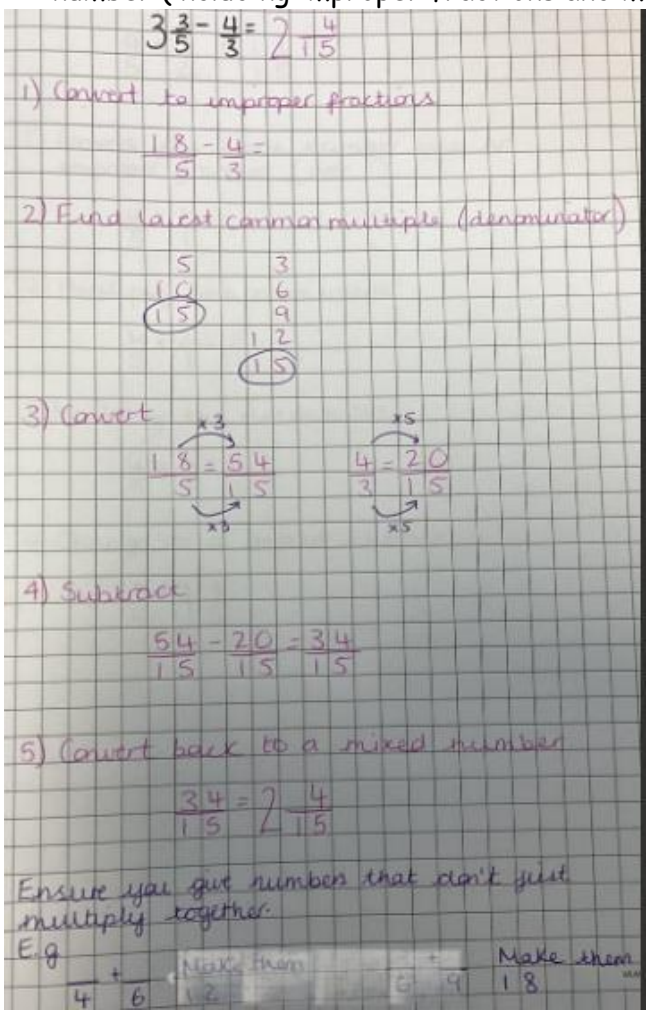




🗝 I can add and subtract fractions whose denominators are multiples of the same number (including improper fractions and mixed numbers)

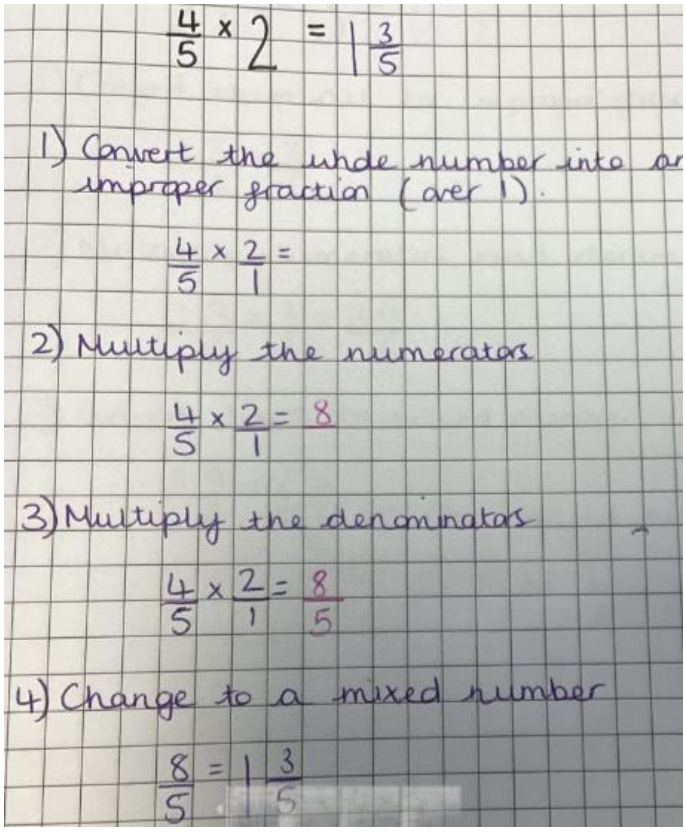


- I can add and subtract fractions whose denominators are factors of the same number (including improper fractions and mixed numbers)

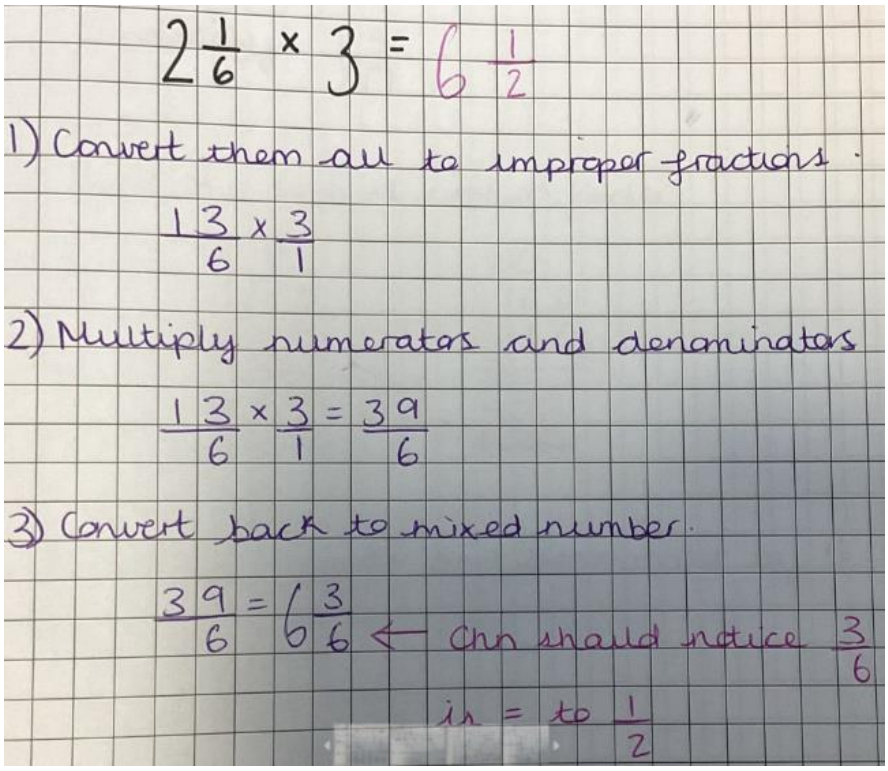


- I know to convert my answer from an improper fraction to a mixed number when adding and subtracting fractions

- I can multiply proper fractions by a whole number

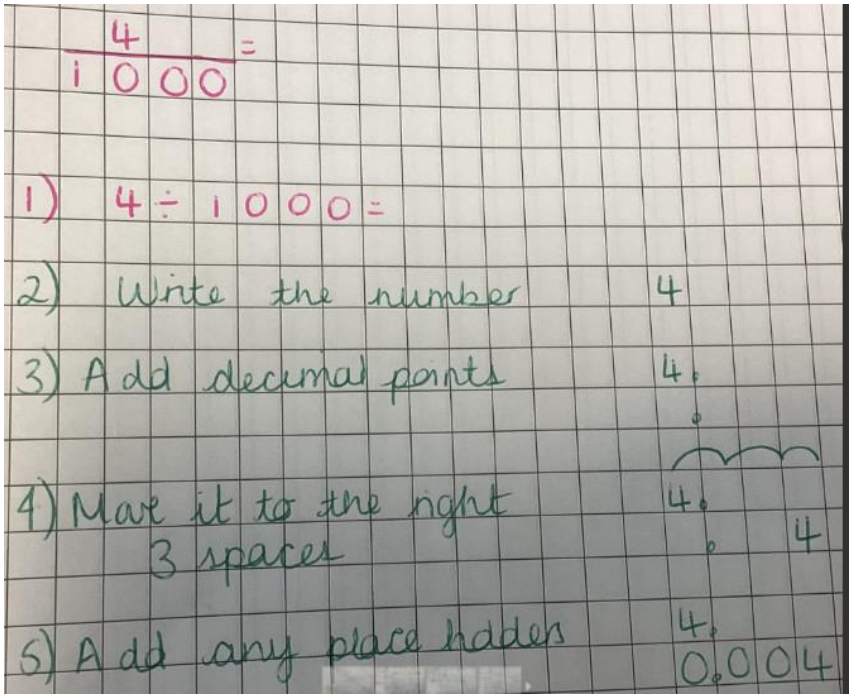


🗝 I can multiply mixed numbers by a whole number (converting the mixed number to an improper fraction)



🗝 I know the decimal equivalence to a fraction when the denominator is 10

- I know the decimal equivalence to a fraction when the denominator is 100
- I know the decimal equivalence to a fraction when the denominator is 1,000

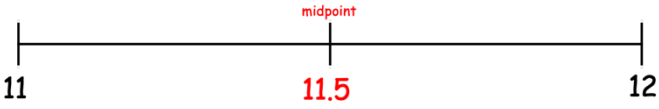


Recap of comparing and ordering decimals up to 3 d.p. from place value unit

- I can solve simple measure and money word problems using the above
- I can find the midpoint between two tenths

1. Number line

Find the midpoint between 11 and 12.



What's the difference between 11 and 12? 1

What would halfway be? $1 \div 2 = \frac{1}{2} = 0.5$

So, 0.5 more than 11 is 11.5

- I can find the midpoint between two hundredths

Use same method as previous

- I can place a number with one decimal place on a number line between two wholes using the midpoint

  See previous year group

- I can place a number with two and three decimal places on a number line between two wholes using the midpoint

1. Draw a number line
2. Find the whole before and after
3. Find the midpoint
4. Estimate where it would be

Place 5.7

- I can place a number with two and three decimal places on a number line between two tenths using the midpoint

  Use same method as previous

- I can place a number with three decimal places on a number line between two hundredths using the midpoint

  Use same method as previous

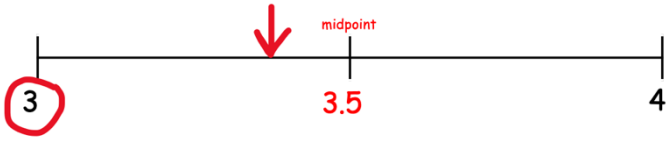
- I can round numbers with one decimal places to the nearest whole

  See previous year group

- I can round numbers with two and three decimal places to the nearest whole

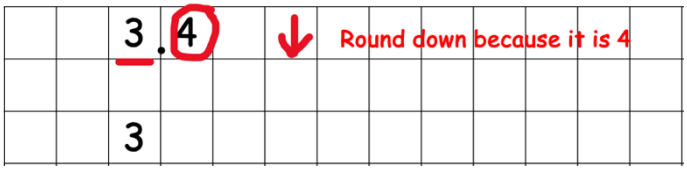
1. Number line method:
   a. Draw number line
   b. Add the whole before and after
   c. Find the midpoint
   d. Place your number
   e. Which whole is it closest to?

Round 3.4 to the nearest whole.



2. Rule:
   a. Underline the digit in the place value column you are rounding to (in this case, the ones because whole means no decimal places)

Round 3.4 to the nearest whole.

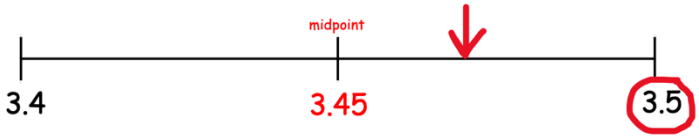


   b. Circle the digit in the place value column to the right (in this case, the tenths)
   c. If the circled digit is 0, 1, 2, 3 or 4, round down to the previous multiple of 10 → the underline digit stays the same and everything to the right becomes a 0 HOWEVER, WHEN ROUNDNIG TO THE NEAREST WHOLE, WE DON'T PUT 0S AFTER THE ONES AS THE NUMBER WOULD NO LONGER BE WHOLE.
   d. If the circled digit is 5, 6, 7, 8 or 9, round up to the next multiple of 10 → the underlined digit goes up by one and everything to the right becomes 0 HOWEVER, WHEN ROUNDNIG TO THE NEAREST WHOLE, WE DON'T PUT 0S AFTER THE ONES AS THE NUMBER WOULD NO LONGER BE WHOLE.

I can round numbers with two and three decimal places to 1 decimal place

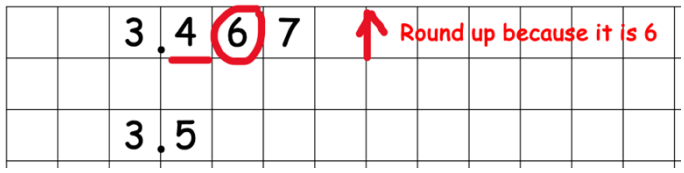
1. Number line method:
   a. Draw number line
   b. Add the tenth before and after
   c. Find the midpoint
   d. Place your number
   e. Which tenth is it closest to?

Round 3.467 to the nearest 1dp.



2. Rule:
   a. Underline the digit in the place value column you are rounding to (in this case, the tenths because 1dp means 1 digit after the decimal point)

Round 3.467 to the nearest whole.



   b. Circle the digit in the place value column to the right (in this case, the hundredths)

c. If the circled digit is 0, 1, 2, 3 or 4, round down to the previous multiple of 10 → the underline digit stays the same and everything to the right becomes a 0 HOWEVER, WHEN ROUNDING TO THE DECIMAL PLACES, WE DON'T PUT 0S AFTER THE COLUMN WE ARE ROUNDING TO AS THE ANSWER WOULD NO LONGER BE 1 DECIMAL PLACE (1 DIGIT AFTER THE DECIMAL POINT)
d. If the circled digit is 5, 6, 7, 8 or 9, round up to the next multiple of 10 → the underlined digit goes up by one and everything to the right becomes 0 HOWEVER, WHEN ROUNDING TO THE DECIMAL PLACES, WE DON'T PUT 0S AFTER THE COLUMN WE ARE ROUNDING TO AS THE ANSWER WOULD NO LONGER BE 1 DECIMAL PLACE (1 DIGIT AFTER THE DECIMAL POINT)

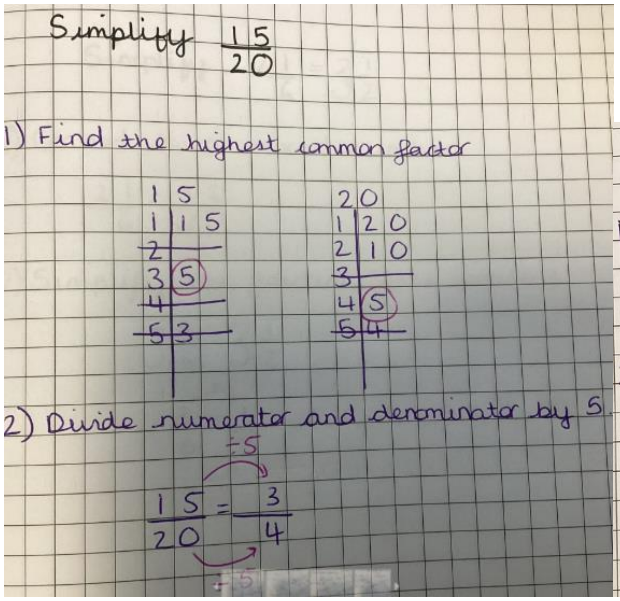
- I can round numbers with three decimal places to 2 decimal places

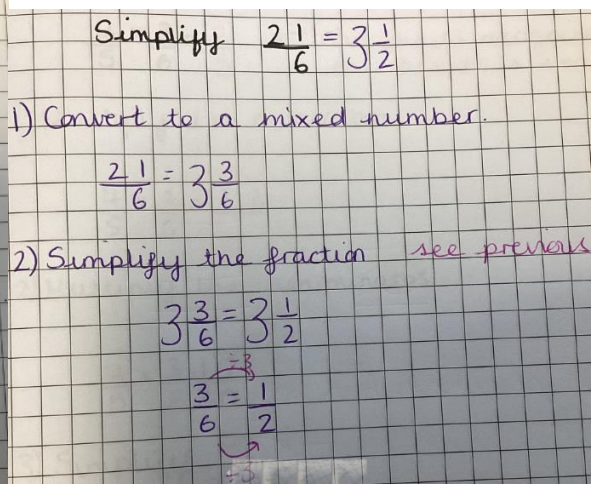
  Use same method as previous

- I can solve simple measure and money word problems using the above

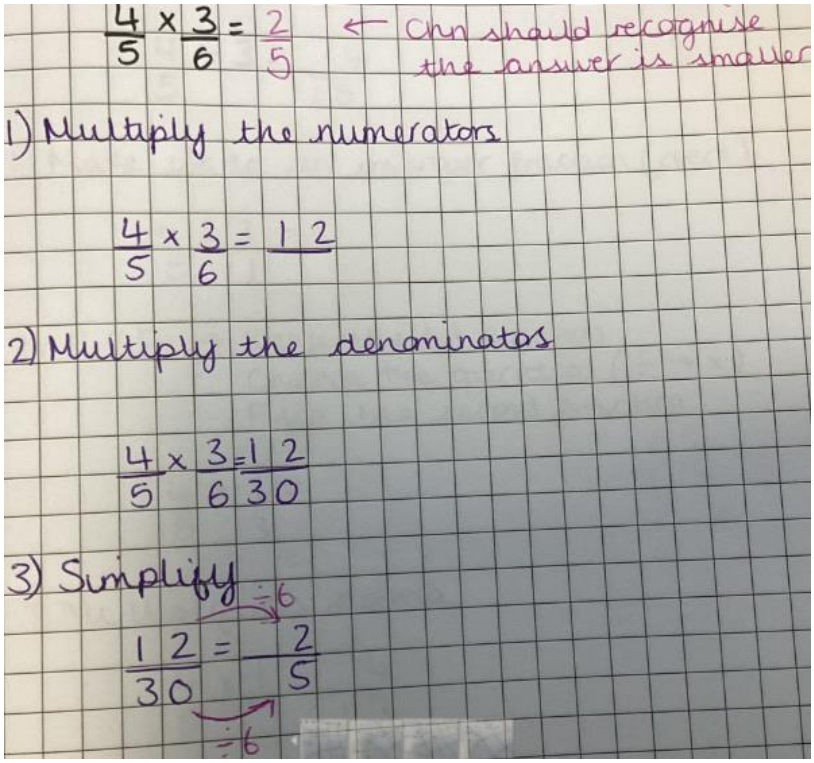
Year Six:

- I can compare and order fractions whose denominators are all multiples of the same number
- I can compare and order fractions whose denominators are all factors of the same number
- I can compare and order mixed numbers and improper fractions
- I can find equivalent fractions using my knowledge of multiplication
- I can simplify fractions using common factors

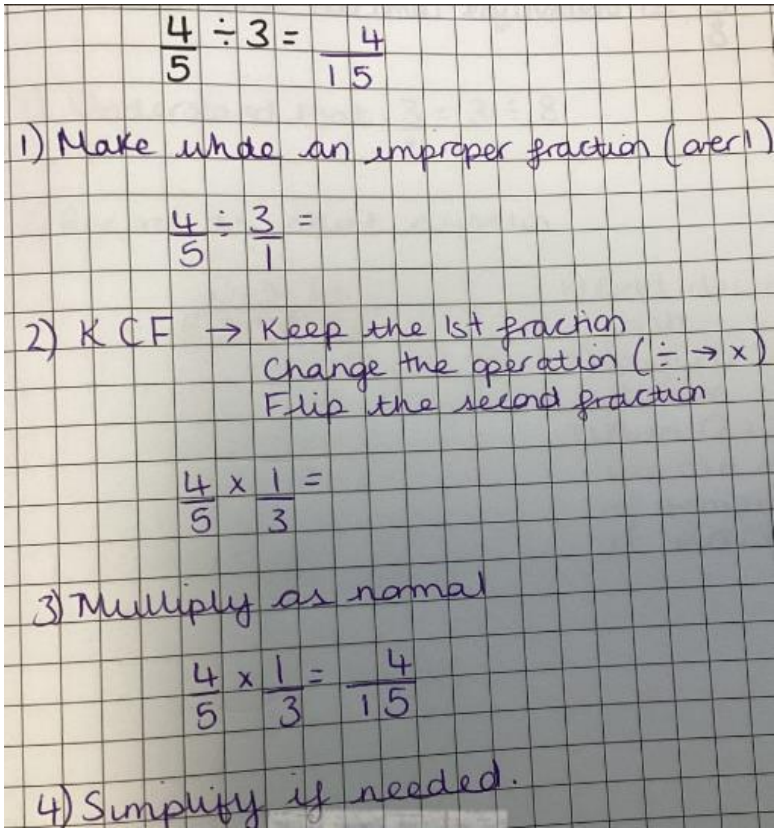




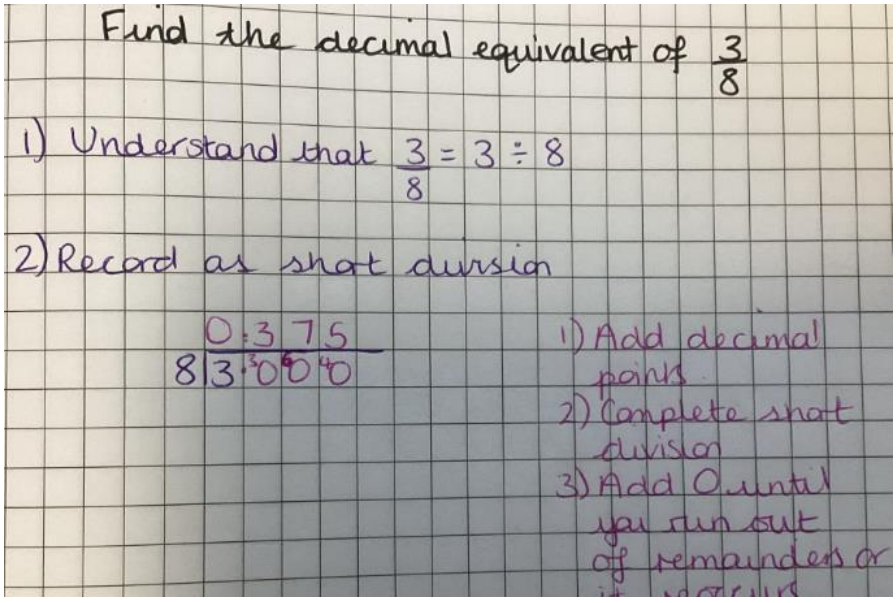
- I can add and subtract fractions with the same denominator (including improper fractions and mixed numbers)
- I can add and subtract fractions whose denominators are multiples of the same number (including improper fractions and mixed numbers)
- I can add and subtract fractions whose denominators are factors of the same number (including improper fractions and mixed numbers)
- I can add and subtract fractions with different denominators (including improper fractions and mixed numbers)
- I know to convert my answer from an improper fraction to a mixed number when adding and subtracting fractions
- I can multiply simple pairs of proper fractions



I know to simplify my answer when multiplying two proper fractions



I can divide proper fractions by whole numbers



Recap of decimals from place value unit

- I can work out decimal fraction equivalents using short division