

Monday 25/01/21

L.O: To convert between fractions and percentages

How do you calculate equivalent fractions and percentages? A reminder

Get a fraction out of 100 and you find the percentage!

Why? Percent means Out of 100!

% to Fractions

Put number over 100

e.g 34% would be $\frac{34}{100}$

1) 27% =

2) 88% =

3) 57% =

Challenge - How could we write 12.5% as a fraction?

How do you calculate equivalent fractions and percentages? A reminder

Get a fraction out of 100 and you find the percentage!

Why? Percent means Out of 100!

% to Fractions

Put number over 100

e.g 34% would be $\frac{34}{100}$

1) $27\% = \frac{27}{100}$

2) $88\% = \frac{88}{100} = \frac{44}{50} = \frac{22}{25}$

3) $57\% = \frac{57}{100}$

Challenge - How could we write 12.5% as a fraction? ($\frac{25}{200}$, $\frac{5}{40}$, $\frac{1}{8}$)

How can we simplify these fractions?

% to Fractions

Put number over 100

e.g 34% would be $\frac{34}{100}$

$$25\% = \frac{25}{100}$$

$$41\% = \frac{41}{100}$$

Do you agree?
Why?

$$\frac{1}{5} = 20\%$$

$$\frac{3}{4} = 75\%$$

1) $56\% = \underline{\quad ? \quad}$
Can you simplify?

2) $\frac{1}{4} = ?$

1) $56\% = \underline{\quad ? \quad}$
Can you simplify?

2) $\frac{1}{4} = ?$

$$1) \ 56\% = \frac{56}{100} = \frac{23}{50}$$

$$2) \ \frac{1}{4} = 25\%$$

Convert these fractions to percentages

*

$$7/100 = \%$$

$$22/100 = \%$$

$$12/100 = \%$$

$$99/100 = \%$$

$$34/50 = \%$$

$$23/50 = \%$$

**

$$7/50 = \%$$

$$22/50 = \%$$

$$12/25 = \%$$

$$9/25 = \%$$

$$14/20 = \%$$

$$12/20 = \%$$

$$7/25 = \%$$

$$2/10 = \%$$

$$12/50 = \%$$

$$9/20 = \%$$

$$4/5 = \%$$

$$12/20 = \%$$

Answers

*

$$7/100 = 7\%$$

$$22/100 = 22\%$$

$$12/100 = 12\%$$

$$99/100 = 99\%$$

$$34/50 = 68\%$$

$$23/50 = 46\%$$

**

$$7/50 = 14\%$$

$$22/50 = 44\%$$

$$12/25 = 48\%$$

$$9/25 = 36\%$$

$$14/20 = 70\%$$

$$12/20 = 60\%$$

$$7/25 = 28\%$$

$$2/10 = 20\%$$

$$12/50 = 24\%$$

$$9/20 = 45\%$$

$$4/5 = 80\%$$

$$12/20 = 60\%$$

Try percentage- fractions (Have you simplified?)

*

$$/ = 99\%$$

$$/ = 20\%$$

$$/ = 51\%$$

$$/ = 17\%$$

$$/ = 10\%$$

$$/ = 50\%$$

**

$$/ = 98\%$$

$$/ = 20\%$$

$$/ = 54\%$$

$$/ = 15\%$$

$$/ = 10\%$$

$$/ = 44\%$$

$$/ = 98\%$$

$$/ = 20\%$$

$$/ = 151\%$$

$$/ = 12\%$$

$$/ = 66\%$$

$$/ = 70\%$$

Answers

Answers percentage- fractions (Have you simplified?)

*

$$99/100 = 99\%$$

$$20/100 = 2/10 = 1/5 = 20\%$$

$$51/100 = 51\%$$

$$17/100 = 17\%$$

(How do I know I can't simplify this?)

$$10/100 = 1/10 = 10\%$$

$$50/100 = 5/10 = 1/2 = 50\%$$

**

$$98/100 = 49/50 = 98\%$$

$$20/100 = 2/10 = 1/5 = 20\%$$

$$54/100 = 27/50 = 54\%$$

$$15/100 = 3/20 = 15\%$$

$$10/100 = 1/10 = 10\%$$

$$44/100 = 22/50 = 11/25 = 44\%$$

$$98/100 = 49/50 = 98\%$$

$$20/100 = 2/10 = 1/5 = 20\%$$

$$151/100 = 151\%$$

$$12/100 = 6/50 = 3/25 = 12\%$$

$$66/100 = 33/50 = 66\%$$

$$70/100 = 7/10 = 70\%$$

Tuesday 26/01/21 20420

Year 5

$$23345 + 23436 =$$

$$1930 - 930 =$$

$$452134 + 9999 =$$

$$5005 + 5005 =$$

$$1000 - 1 =$$

$$345678 + 165378 =$$

$$4567 - 500 =$$

$$2003 + 450 =$$

$$500 - 250 + 345 =$$

$$234567 + 9346 + 35692 =$$

$$25\% \text{ of } 200 =$$

$$51\% \times 80 =$$

$$90 - 30 = \underline{\quad} \times 10$$

$$4 \times 6 = 12 \times \underline{\quad}$$

$$\underline{\quad} + 234 = 970$$

$$12\% = 0.\underline{\quad}$$

$$245\% = \underline{\quad}.\underline{\quad}$$

$$0.72 = \underline{\quad}\%$$

$$134\% = \text{what fraction?}$$

$$243 \times 16 =$$

Year 6

$$923345 + 323436 =$$

$$81930 - 4930 =$$

$$45213454 + 519999 =$$

$$50056 + 50056 =$$

$$100000 - 1 =$$

$$345678.66 + 165378.78 =$$

$$445567 - 500 =$$

$$222003 + 450 =$$

$$5000 - 2500 + 3450 =$$

$$4234567 + 59346 + 635692 =$$

$$15\% \text{ of } 600 =$$

$$20\% \times 800 =$$

$$39\% \text{ of } 220 =$$

$$4 \times 600 =$$

$$40 \times 0.6 =$$

$$12\frac{1}{2} \times 12\frac{1}{2} =$$

$$9\frac{3}{5} \div 3 =$$

$$9 \div \frac{1}{3} =$$

$$\frac{12}{20} \times \frac{2}{5} =$$

$$375 \div 5 =$$

Year 5

$$23345 + 23436 = 46781$$

$$1930 - 930 = 1000$$

$$452134 + 9999 = 462133$$

$$5005 + 5005 = 10010$$

$$1000 - 1 = 999$$

$$345678 + 165378 = 511056$$

$$4567 - 500 = 4067$$

$$2003 + 450 = 2453$$

$$500 - 250 + 345 = 595$$

$$234567 + 9346 + 35692 = 279605$$

$$15\% \text{ of } 60 = 9$$

$$20\% \times 80 = 16$$

$$39\% \text{ of } 200 = 78$$

$$4 \times 600 = 2,400$$

$$40 \times 600 = 24,000$$

$$2\frac{1}{2} \times 2\frac{1}{2} = 6.25 \text{ or } 6\frac{1}{4}$$

$$5\frac{3}{5} \div 3 = 16.8 \text{ or } 16\frac{4}{5}$$

$$5 \div \frac{1}{3} = 15$$

$$\frac{9}{11} \times \frac{2}{5} = \frac{18}{55}$$

$$75 \div 5 = 15$$

Year 6

$$923345 + 323436 = 1246781$$

$$81930 - 4930 = 77000$$

$$45213454 + 519999 = 45733453$$

$$50056 + 50056 = 100112$$

$$100000 - 1 = 99999$$

$$345678.66 + 165378.78 = 511057.44$$

$$445567 - 500 = 445067$$

$$222003 + 450 = 222453$$

$$5000 - 2500 + 3450 = 5950$$

$$4234567 + 59346 + 635692 = 4929605$$

$$15\% \text{ of } 600 = 90$$

$$20\% \times 800 = 160$$

$$39\% \text{ of } 220 = 85.8$$

$$4 \times 600 = 2,400$$

$$40 \times 0.6 = 24$$

$$12\frac{1}{2} \times 12\frac{1}{2} = 156.25 \text{ or } 156\frac{1}{4}$$

$$9\frac{3}{5} \div 3 = 3.2 \text{ or } 3\frac{1}{5}$$

$$9 \div \frac{1}{3} = 27$$

$$\frac{12}{20} \times \frac{2}{5} = \frac{24}{100} = \frac{12}{50} = \frac{6}{25}$$

$$375 \div 5 = 75$$

Wednesday 27/01/21

L.O: To convert fluently between fractions, decimals and percentages

Use BIDMAS!

Reset
cards and
target

124

Generate
new
target

100

4

5

8

5

1

Wednesday 27/01/21

L.O: To convert fluently between fractions, decimals and percentages

Reset
cards and
target



Generate
new
target

Use BIDMAS!

| | | | | | |
|----|---|---|---|---|---|
| 50 | 9 | 7 | 6 | 3 | 2 |
|----|---|---|---|---|---|

Wednesday 27/01/21

L.O: To convert fluently between fractions,
decimals and percentages

Recap: I am going to call out some percentages. You need to repeat them back as fractions.

Wednesday 27/01/21

L.O: To convert fluently between fractions,
decimals and percentages

Decimals to Percentages

Most of the time, an easy way to remember is: If you know the percentage, you know the decimal.

eg) $97\% = 0.97$

Try 22%, 34% and 66% as decimals.

True or false?

$$1\% = 0.1?$$

True or false?

$1\% = 0.1?$

False

1 % is equivalent to one hundredth

0.1 is equivalent to one tenth

$1\% = 0.01$

Wednesday 27/01/21

L.O: To convert fluently between fractions,
decimals and percentages

Decimals to Fractions

- If it is to one decimal place, it is a
tenth, so just put it over 10

Wednesday 27/01/21

L.O: To convert fluently between fractions,
decimals and percentages

Decimals to Fractions

- If it is to two decimal places, it is a hundredth, so just put it over 100

Wednesday 27/01/21

L.O: To convert fluently between fractions,
decimals and percentages

Decimals to Fractions

- If it is three decimal places, it is a
thousandth, so just put it over a
1000

Fill in this grid. You don't need to print it! You can, for example, just write them like

$$1/50 = 0.02 = 2\%$$

| Fractions | Decimals | Percentages |
|-----------|----------|-------------|
| 1/10 | | |
| | 0.2 | |
| 1/4 | | |
| | | 30% |
| 2/5 | | |
| 1/2 | 0.5 | 50% |
| | | 60% |
| | 0.7 | |
| | | 75% |
| 8/10 | | |
| | 0.9 | |
| 1/1 | | |

If you found it easy, continue the table including at least five of your own.

- 167%
- 7/5
- 1 and 3/8
- 0.023
- 0.123
- 0.07

Fill in this grid. You don't need to print it you can, for example, just write them like

$$1/50 = 0.02 = 2\%$$

| Fractions | Decimals | Percentages |
|-----------|----------|-------------|
| 1/10 | 0.1 | 10% |
| 2/10 | 0.2 | 20% |
| 1/4 | 0.25 | 25% |
| 3/10 | 0.3 | 30% |
| 2/5 | 0.4 | 40% |
| 1/2 | 0.5 | 50% |
| 3/5 | 0.6 | 60% |
| 7/10 | 0.7 | 70% |
| 3/4 | 0.75 | 75% |
| 8/10 | 0.8 | 80% |
| 9/10 | 0.9 | 90% |
| 1/1 | 1.0 | 100% |

Remember:

$$\mathbf{1/8 = 12.5\% = 0.125}$$

Find $3/8$, $5/8$ and $7/8$ as a percentage and decimal.

Question: Why do we not need to remember $2/8$, $4/8$, $6/8$ or $8/8$ separately?

Quickfire round

Thursday 28/01/21

L.O. To compare and order fractions, decimals and percentages

What could my number be?

- 1) 7 digits
- 2) 3 digits are prime (1, 2, 3, 5, 7)
- 3) Digit in the thousands column is 2 more than the digit in the ten thousands columns
- 4) The sum of the tens and units is greater than 11
- 5) The sum of the millions digit and hundred thousands digit is less than 5



0.2 2 tenths
 0 hundredths

0.21 2 tenths
 1 hundredth

0 | t | h | th
 | . | | |

Would You Rather Have...

40% or $\frac{3}{8}$ of a pizza?



0.27 or 32% of a bag of sweets?



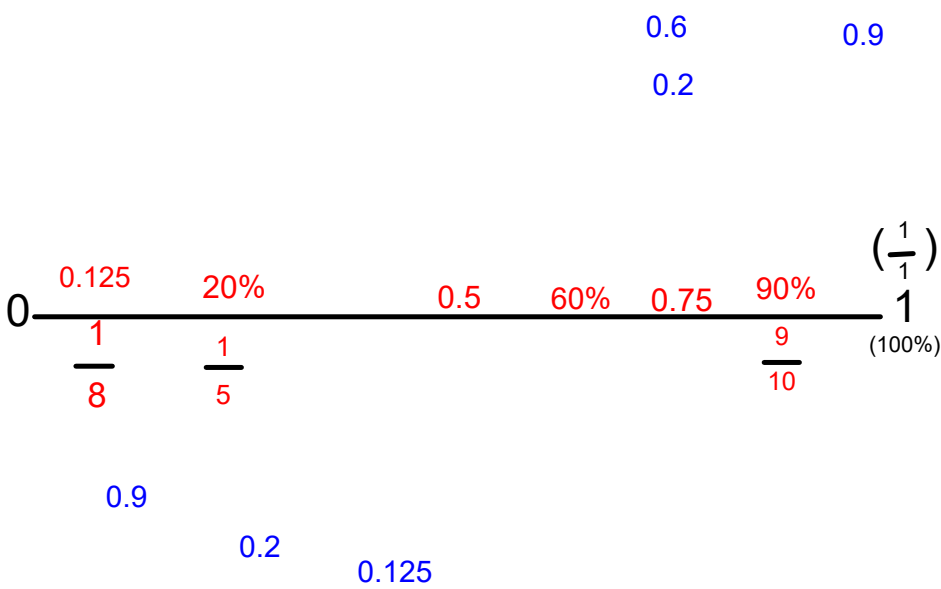
Top tip

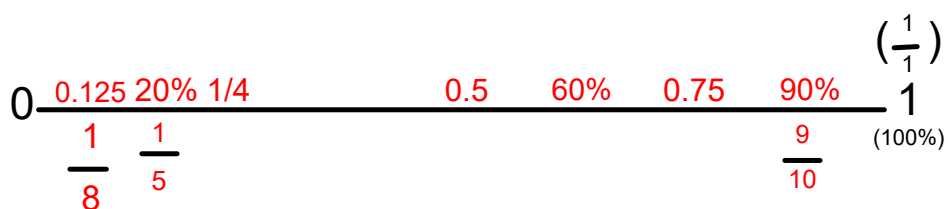
When we are comparing fractions, decimals and percentages it is usually easiest to convert them each into decimal form first.

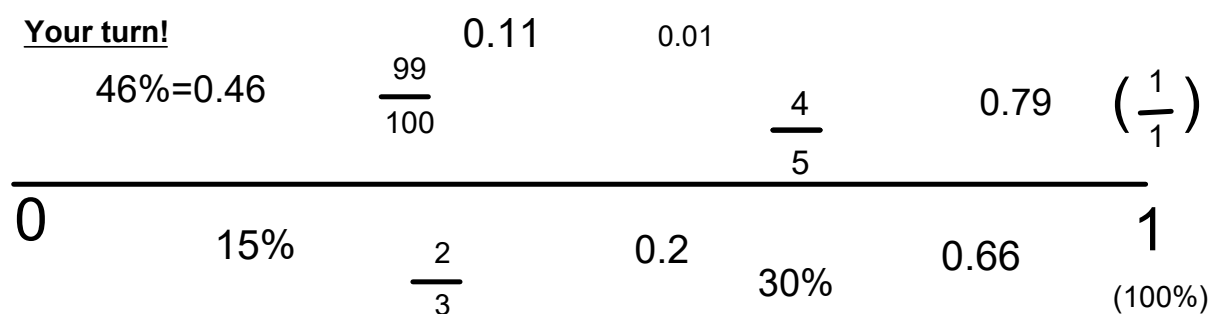
$$40\%$$

$$\frac{3}{8} = 3 \times 12.5\%$$

$$= 37.5\%$$







Challenge - Add the ones in red onto your number line

0.999 $\frac{3}{15}$ 91% 0.409

0.1% 0.158 0.185 49% $\frac{7}{8}$ 65%

Friday 29/01/21

L.O. To demonstrate mastery of fractions, decimals and percentages

It's quiz time!

Match the following decimal numbers, percentages and fractions.

| | | | | | |
|-----|-----|----------------|-------|---------------|-------|
| 0.3 | 50% | $\frac{2}{5}$ | 0.25 | $\frac{1}{2}$ | 12.5% |
| 0.5 | 40% | $\frac{1}{5}$ | 0.375 | $\frac{1}{8}$ | 50% |
| 0.4 | 70% | $\frac{7}{10}$ | 0.75 | $\frac{7}{8}$ | 87.5% |
| 0.7 | 20% | $\frac{1}{2}$ | 0.5 | $\frac{3}{8}$ | 25% |
| 0.9 | 30% | $\frac{9}{10}$ | 0.125 | $\frac{1}{4}$ | 75% |
| 0.2 | 90% | $\frac{3}{10}$ | 0.875 | $\frac{3}{4}$ | 37.5% |

Write the equivalent fraction (in its simplest form) to the following:

| | | | | | |
|-------|--------|-------|--------|---------|-------|
| 75% = | 30% = | 15% = | 90% = | 50% = | 35% = |
| 0.6 = | 0.95 = | 0.1 = | 0.25 = | 0.625 = | 0.2 = |
| 25% = | 0.9 = | 0.5 = | 5% = | 0.4 = | 85% = |

Write the equivalent decimal and percentage to the following:

| | | | |
|------------------|-----------------|------------------|--|
| $\frac{1}{2}$ = | $\frac{3}{4}$ = | $\frac{1}{5}$ = | |
| $\frac{4}{5}$ = | $\frac{3}{8}$ = | $\frac{1}{10}$ = | |
| $\frac{7}{10}$ = | $\frac{2}{5}$ = | $\frac{5}{8}$ = | |

You need to have good recall of fractions, decimals and percentages and how they are linked, just like how it is important to know our times tables.

Time how long this exercise takes you.

Match the following decimal numbers, percentages and fractions.

| | | | | | |
|-----|-----|----------------|-------|---------------|-------|
| 0.3 | 50% | $\frac{2}{5}$ | 0.25 | $\frac{1}{2}$ | 12.5% |
| 0.5 | 40% | $\frac{1}{5}$ | 0.375 | $\frac{1}{8}$ | 50% |
| 0.4 | 70% | $\frac{7}{10}$ | 0.75 | $\frac{3}{4}$ | 87.5% |
| 0.7 | 20% | $\frac{1}{2}$ | 0.5 | $\frac{3}{8}$ | 25% |
| 0.9 | 30% | $\frac{9}{10}$ | 0.125 | $\frac{1}{8}$ | 75% |
| 0.2 | 90% | $\frac{3}{10}$ | 0.875 | $\frac{7}{8}$ | 37.5% |

If it takes you less than 10 minutes, and you have made 3 mistakes or less, continue onto the next set of questions.

Write the equivalent fraction (in its simplest form) to the following:

| | | | | | |
|---------------------|------------------------|----------------------|----------------------|-----------------------|-----------------------|
| 75% = $\frac{3}{4}$ | 30% = $\frac{3}{10}$ | 15% = $\frac{3}{20}$ | 90% = $\frac{9}{10}$ | 50% = $\frac{1}{2}$ | 35% = $\frac{7}{20}$ |
| 0.6 = $\frac{3}{5}$ | 0.95 = $\frac{19}{20}$ | 0.1 = $\frac{1}{10}$ | 0.25 = $\frac{1}{4}$ | 0.625 = $\frac{5}{8}$ | 0.2 = $\frac{1}{5}$ |
| 25% = $\frac{1}{4}$ | 0.9 = $\frac{9}{10}$ | 0.5 = $\frac{1}{2}$ | 5% = $\frac{1}{20}$ | 0.4 = $\frac{2}{5}$ | 85% = $\frac{17}{20}$ |

If it took longer than 10 minutes OR you got more than 3 wrong, practice using the game I linked on the weekly overview sheet before attempting the questions.

Write the equivalent decimal and percentage to the following:

| | | | |
|-----------------------------|--------------------------------|--------------------------------|------------------------------|
| $\frac{1}{2}$ = 0.5 or 50% | $\frac{3}{4}$ = 75% or 0.75 | $\frac{1}{5}$ = 20% or 0.2 | |
| $\frac{4}{5}$ = 0.8 or 80% | $\frac{3}{8}$ = 37.5% or 0.375 | $\frac{1}{10}$ = 10% or 0.1 | |
| $\frac{7}{10}$ = 70% or 0.7 | $\frac{2}{5}$ = 40% or 0.4 | $\frac{5}{8}$ = 62.5% or 0.625 | $\frac{7}{20}$ = 35% or 0.35 |

Match the equivalent fractions, decimals and percentages. Alternatively, you can choose to convert between just fractions and decimals, or between fractions and percentages or decimals and percentages. Diagrams to show equivalence can be turned on or off.

[For more resources involving fractions and decimals click here.](#)

Match fractions, decimals and percentages

| Fractions | Decimals | Percentages |
|----------------|----------|-------------|
| $\frac{1}{10}$ | 0.1 | 10% |
| | | 25% |
| $\frac{1}{2}$ | 0.2 | 20% |
| | 0.01 | 1% |


Play game

NEW MATHS GAMES

Year Five Work

4a. There are 200 sweets in a jar.

Lucy takes $\frac{3}{10}$ of the sweets. Alice takes 50% of the sweets.



How many does each child have?
How many are left in the jar?
What percentage is this?

PS


5a. Convert the fractions and decimals below into percentages.

$\frac{22}{200}$ $\frac{58}{100}$ 0.5 $\frac{30}{300}$ 0.15

Write the percentages in ascending order.

PS


6a. Steph and Gabriel are converting fractions and decimals into percentages.



0.07 as a percentage is 70%.

Steph

$\frac{70}{100}$ as a percentage is 70%.



Gabriel

Who is correct?
Explain how you know.

PS

7a. True or false?

75% is equivalent to 7.5

VF

7b. True or false?

42% is equivalent to $\frac{84}{200}$

VF

8a. Fill in the missing boxes to show the equivalent fraction, decimal or percentage.

A. $\frac{64}{200} = \square = 32\%$

B. $\square = 0.24 = 24\%$

C. $\frac{36}{100} = 0.36 = \square$

VF

8b. Fill in the missing boxes to show the equivalent fraction, decimal or percentage.

A. $\square = 0.52 = 52\%$

B. $\frac{82}{200} = \square = 41\%$

C. $\frac{44}{200} = 0.22 = \square$

VF

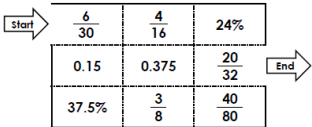
Year Six Work

4. Circle the fractions, decimals or percentages that are in the incorrect places in the sequence below. The sequence is in ascending order.

$\frac{3}{5}$, 0.56, 59%, $\frac{6}{8}$, $\frac{15}{25}$, 0.625, 80%, 87.5%



5. Find the correct route through the maze so that each fraction, decimal and percentage continues in ascending order. You can only travel vertically and horizontally.



6. Mrs Wilson is ordering the results of a history test her class recently took.

Their scores are recorded in the table below.

| Name | Tyler | Jeremy | Shania | Yasmin | Becky |
|-------|-------|-----------------|--------|--------|-------|
| Score | 88% | $\frac{36}{45}$ | 0.8 | 0.78 | 58% |

Put the scores in descending order. Did any pupils get the same score? Explain how you know.

Year Five Answers

4a. Lucy has 60 sweets, Alice has 100 sweets. There are 40 sweets left which is 20%.

5a. 10%, 11%, 15%, 50%, 58%

6a. Gabriel is correct, $\frac{70}{100} = 70\%$. Steph is incorrect, $0.07 = 7\%$ not 70%

7a. False, the correct answer is 0.75

8a. $A = 0.32$, $B = \frac{24}{100}$ (or equivalent fraction), $C = 36\%$

7b. True

8b. $A = \frac{52}{100}$ (or equivalent fraction), $B = 0.41$, $C = 22\%$

Year Six Answers

4. $\frac{3}{5}, \frac{6}{8}$

5. $\frac{6}{30}, \frac{4}{16}, 0.375, \frac{20}{32}$

6. $0.88, 0.8, \frac{36}{45}, 0.78, 58\%$

Various answers, for example: Jeremy and Shania both have the same score because $\frac{4}{5}$ is equivalent to $\frac{36}{45}$, which is the same as 0.8.

Attachments

Chart to fill in.docx

EIGHTHS as decimals and percentages.docx

Number line.docx

Find percentages of amounts 1.docx

Old white rose FDP questions.docx

Extension % of amounts.docx

More Able Table.docx

(GD) Increase-Decrease percentage.docx

GD comparison.docx

Trickier table.docx

FDP-Conversions.docx

Y5 Mastery and MwithGD.docx

Y6 Mastery and MwithGD.docx