

Knowledge Organiser: FDP

What you need to know:

Fractions, decimals and percentages

You need to be able to convert between fractions, decimals and percentages.

Percentages:

$$30\% = 0.30 \text{ or } 0.3 = \frac{30}{100} \text{ or } \frac{3}{10}$$

We sometimes have to then simplify our fraction using common times tables.

$$8\% = 0.08 = \frac{8}{100} \text{ or } \frac{4}{50} \text{ or } \frac{2}{25}$$

Percent means out of 100 so this is why we start with 100 as the denominator.

If the decimal has 0 tenths then it is less than 10%.

Decimals:

$$0.15 = 15\% = \frac{15}{100} \text{ or } \frac{3}{20}$$

$$0.02 = 2\% = \frac{2}{100} \text{ or } \frac{1}{50}$$

Fractions:

$$\frac{45}{100} = 0.45 = 45\%$$

$$\frac{12}{50} \text{ or } \frac{24}{100} = 0.24 = 24\%$$

Unless we know the answer we must make the denominator 100 then convert.

These are some of the conversions that you need to learn.

Top tips - To convert:

- Percentages to decimals divide by 100.
- Decimals to percentages multiply by 100.
- Percentages to fractions, put over 100.
- Fractions make sure the denominator is 100.

F	D	P
$\frac{1}{100}$	0.01	1%
$\frac{1}{10}$	0.1	10%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%

Key Terms:

Fraction: A fraction is made up of a numerator (top) and a denominator (bottom).

Integer: Whole number.

Ascending Order: Place in order, smallest to largest.

Descending Order: Place in order, largest to smallest.

Percentage: Out of one hundred.

Decimal: A decimal is a fraction written in a special form e.g. 0.6.

You need to be able to:

- Convert between simple fractions, decimals and percentages.
- Convert between fractions and recurring decimals and percentages.
- Compare fractions, decimals and percentages.
- Order fractions, decimals and percentages by converting.

[Hegarty maths clip numbers](#)

FDP: 52, 55, 73 – 76, 82 – 83



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What you need to know:

Comparing FDP

To be able to compare values, we need to get them in the same format.

Example: Which is bigger 78% or 0.8?

We can either change the 0.8 into a percentage or the 78% into a decimal.

$$0.8 = 80\%$$

Which is bigger 78% or 80%?

80% is bigger so the answer is 0.8.

Make sure you write answer as it was originally written in the question.

Example: Which is bigger $\frac{17}{20}$ or 0.87?

$$\frac{17}{20} = \frac{85}{100} \quad 0.87 = \frac{87}{100}$$

Having them both written out of 100 makes it easier to compare.

Multiply the numerator and denominator by 5 to make the denominator 100.

87 is bigger than 85 so the answer is 0.87.

Ordering FDP

To be able to order FDP, we need to write them all in the same format.

Example: Order from smallest to largest $\frac{1}{4}$ 0.19 0.3 26% $\frac{1}{5}$

You can choose to convert them all into fractions, decimals or percentages as long as you convert them all into the same.

Changing them to percentages:

$$\frac{1}{4} = 25\% \quad 0.19 = 19\% \quad 0.3 = 30\% \quad \frac{1}{5} = 20\%$$

Rewrite the list with the numbers all in the same format.

25%, 19%, 30%, 26%, 20%

From smallest to biggest:

19%, 20%, 25%, 26%, 30%

Answer:

0.19, $\frac{1}{5}$, $\frac{1}{4}$, 26%, 0.3

Make sure you write your answer using the original numbers in the question.