



# 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?

$$\frac{17}{20} = \frac{85}{100}$$

$$0.87 = \frac{87}{100}$$

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:

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

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

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

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.