

Like terms

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★ By the end of the lesson I would hope that you have an understanding of the concepts below:

- Know what it means to be like terms
- Know how to identify like terms
- Know that the order of the pronumerals, when multiplied together, doesn't matter.

RECAP

We are powering through this Algebra stuff.

By now we are 3 lessons into the course and we know that the important thing is to make sure we understand the language which is being used.

If we also remember BIDMAS (or BODMAS) and FSSSSSS we are on the fast track to success.

Now we need to know about **like terms**.

Like Terms

We know that the word like means:



like¹

/lʌɪk/

preposition

preposition: **like**

1. having the same characteristics or qualities as; similar to.

"he used to have a car like mine"

Similar: similar to the same as identical to

- in the manner of; in the same way or to the same degree as.

"he was screaming like a banshee"

Similar: in the same way as in the manner of in the same manner as

- in a way appropriate to.

"students were angry at being treated like children"

- such as one might expect from; characteristic of.

"just like you to put a damper on people's enjoyment"

Similar: characteristic of typical of in character with

- used in questions to ask about the characteristics or nature of someone or something.

"what is it like to be a tuna fisherman?"

2. used to draw attention to the nature of an action or event.

"I apologize for coming over unannounced like this"

3. such as; for example.

"the cautionary vision of works like *Animal Farm* and 1984"

Similar: such as for example for instance in particular as namely

OK ... a lot of writing to mean "**exactly the same**"

For terms to be "like" they must be exactly the same.
The best way to teach this is to use some examples.

Examples of LIKE TERMS

Example 1: Taken from the Cambridge Essentials Textbook series

Which of the following pairs are like terms?

$3x$ and $2x$

LIKE

$3a$ and $3b$

NOT LIKE!

$2ab$ and $5ba$

LIKE

$2ab$

$5ba = 5ab$

$4k$ and k

LIKE

$2a$ and $4ab$

NOT LIKE

$7ab$ and $9aba$

NOT LIKE

When we collect things, we tend to group things which are the same.
We might put apples into a bag when we go shopping at the supermarket for example.
When we do this we are **collecting like terms**.

Taking the example of apples, when in Coles, you are not really allowed to mix the different types of apples are you! Granny Smiths must go together, Golden Delicious must go in the same bag.

We use the same idea when we collect like terms in Maffs.

REMEMBER: We can only collect letters which are the same.

NOTE: There are some interesting tricks which we use in Maffs.

$$2a + 2a + 2a \\ = 6a$$

Collecting Like Terms

Example 2: Taken from the Cambridge Essentials Textbook series

Simplify the following by collecting like terms.

$$7b + 2 + 3b$$

$$7b + 2 + 3b$$

$$\underline{\underline{10b + 2}}$$

$$12d - 4d + d$$

$$12d - 4d + d$$

$$= \underline{\underline{9d}}$$

$$5 + 12a + 4b - 2 - 3a$$

$$\cancel{5} + \cancel{12a} + \cancel{4b} - \cancel{2} - \cancel{3a}$$

$$\underline{\underline{9a + 4b + 3}}$$

$$13a + 8b + 2a - 5b - 4a$$

$$\cancel{13a} + 8b + \cancel{2a} - 5b - \cancel{4a}$$

$$\underline{\underline{11a + 3b}}$$

$$\underline{\underline{11a + 5b}}$$

$$12uv + 7v - 3vu + 3v$$

$$\begin{aligned} & 12uv + 7v - 3vu + 3v \\ = & \cancel{12uv} + 7v - \cancel{3vu} + 3v \\ & \underline{\underline{9uv + 10v}} \end{aligned}$$