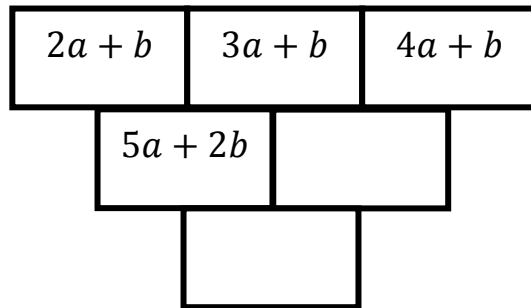
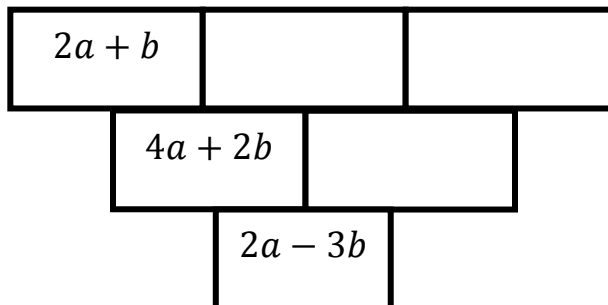


Simplifying Algebraic Expressions KS3 Non-Calculator

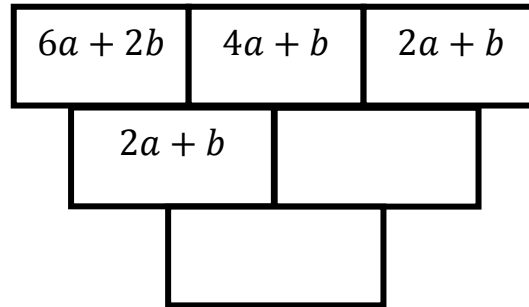
1. Complete the diagram by adding the expressions in two adjacent boxes (next to each other) to get the one below. One has been done for you.



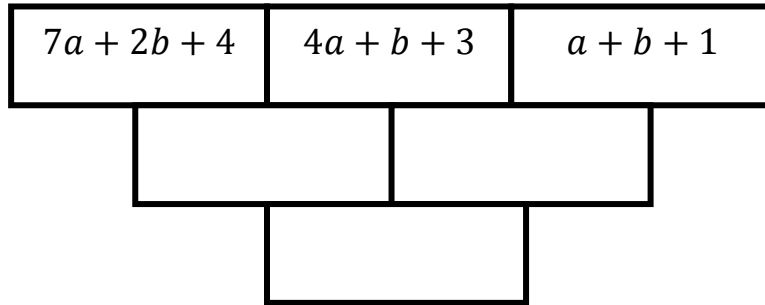
2. Complete the diagram by **adding** the expressions in two adjacent boxes (next to each other) to get the one below.



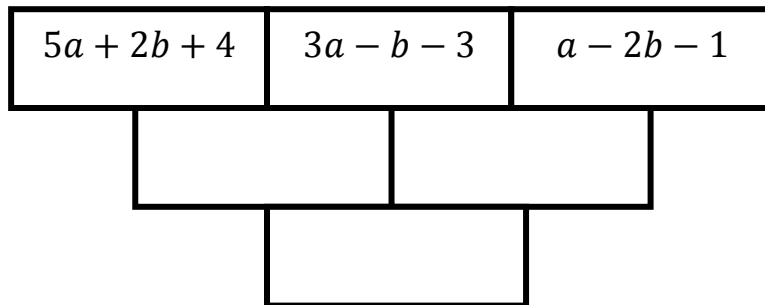
3. Repeat Question 1 by **subtracting** the one on the **right from** the one on the **left** to get the one below. The first one has been done for you.



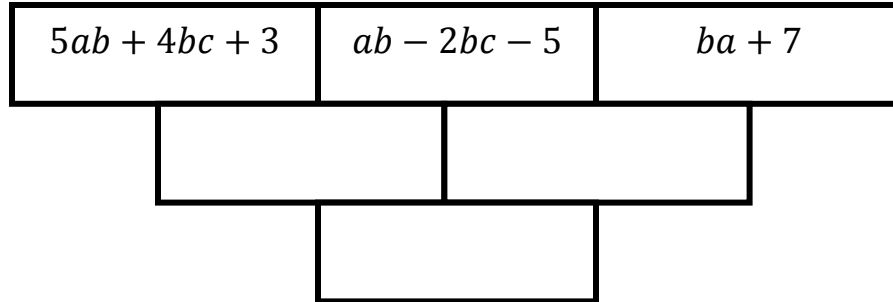
4. Repeat Question 1 by **subtracting** the one on the **right from** the one on the **left** to get the one below.



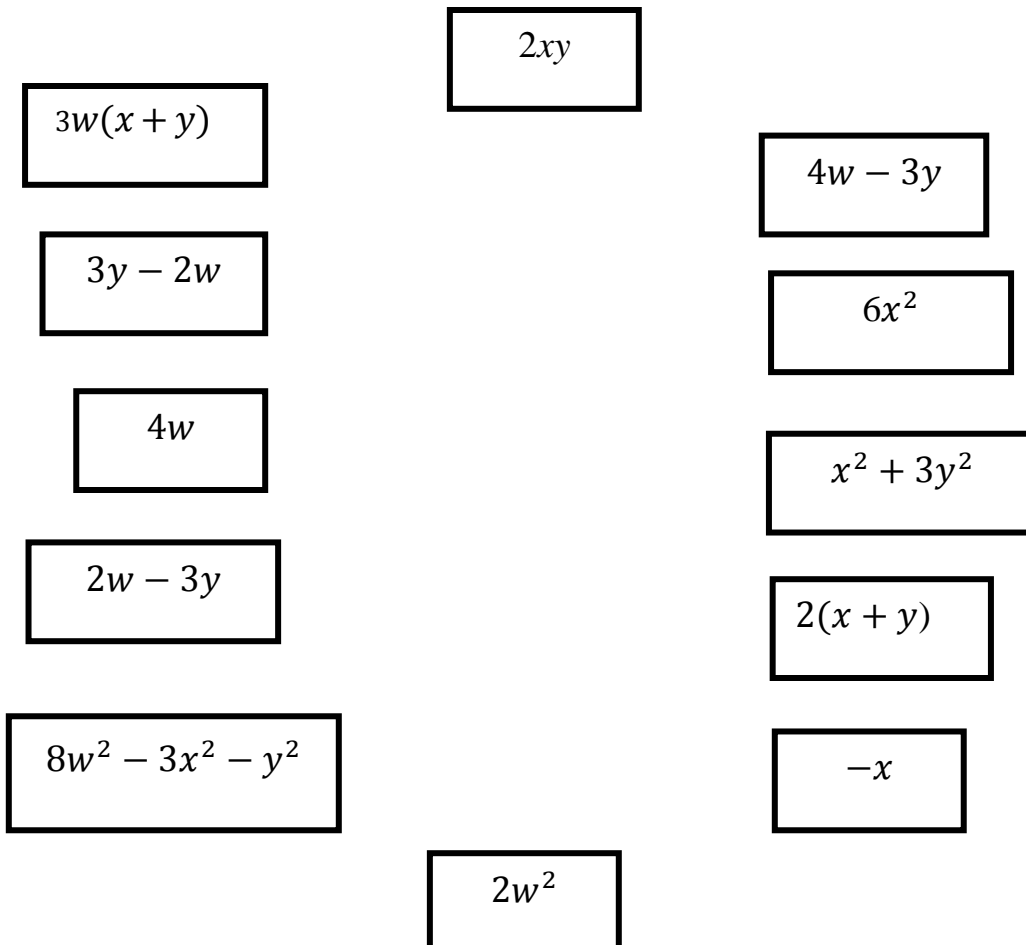
5. Complete the diagram by **adding** the expressions in two adjacent boxes (next to each other) to get the one below.



6. Complete the diagram by **adding** the expressions in two adjacent boxes (next to each other) to get the one below.



7. Draw lines to join any pairs that will always have the **same value** when $w = x = y$



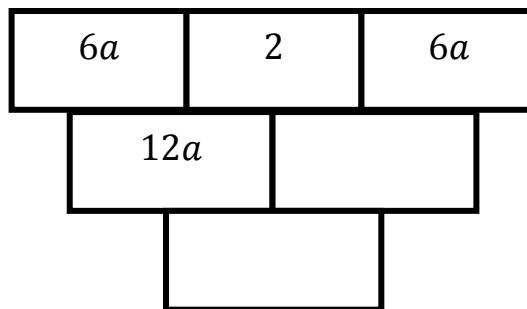
BONUS (simple multiplication and division)

On the top row, there are three terms, one in each box.

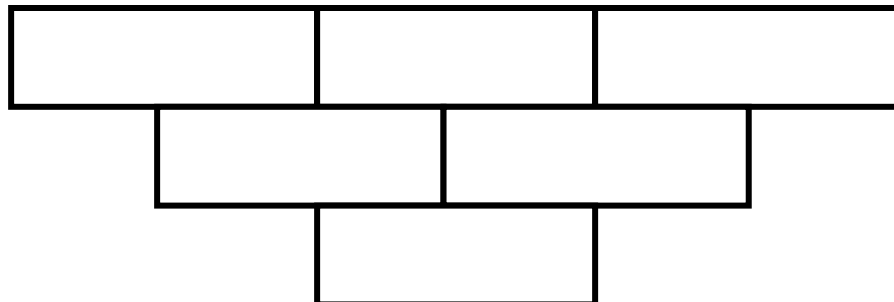
Multiply the first by the second (this has been done to give $12a$).

Now you multiply the second by the third to fill the second box in the second row.

To fill in the last box at the bottom, divide the first box in the second row by the answer in the second box.



Make up your own addition question for your friend to do.



ANSWERS

1.

$2a + b$	$3a + b$	$4a + b$
$5a + 2b$	$7a + 2b$	
	$12a + 4b$	

2.

$2a + b$	$2a + b$	$-4a - 6b$
$4a + 2b$	$-2a - 5b$	
	$2a - 3b$	

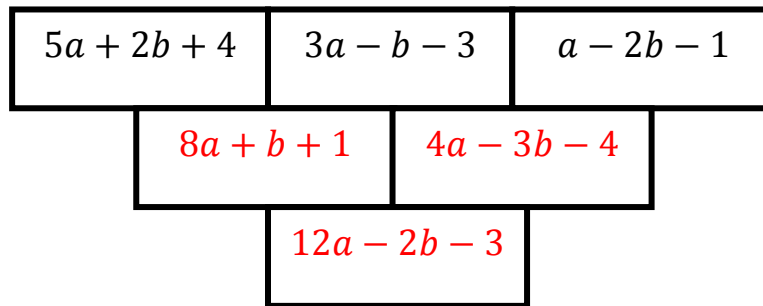
3.

$6a + 2b$	$4a + b$	$2a + b$
$2a + b$	$2a$	
	b	

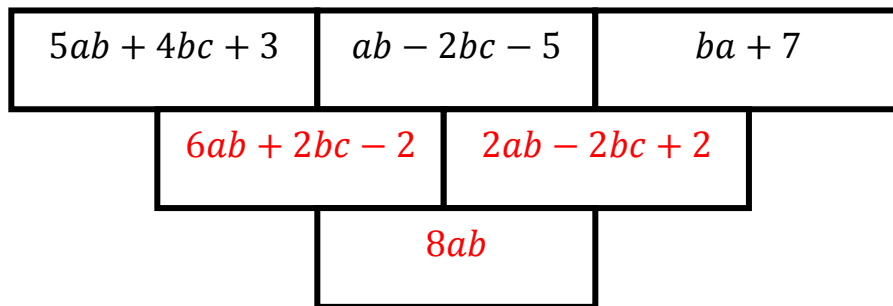
4.

$7a + 2b + 4$	$4a + b + 3$	$a + b + 1$
$3a + b + 1$	$3a + 2$	
	$b - 1$	

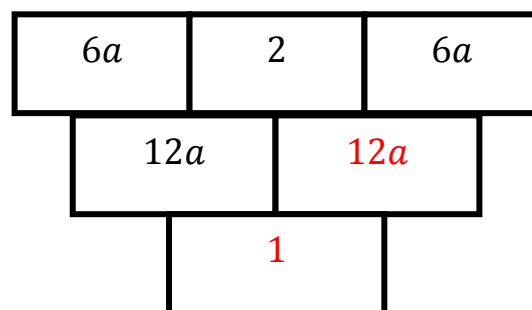
5.



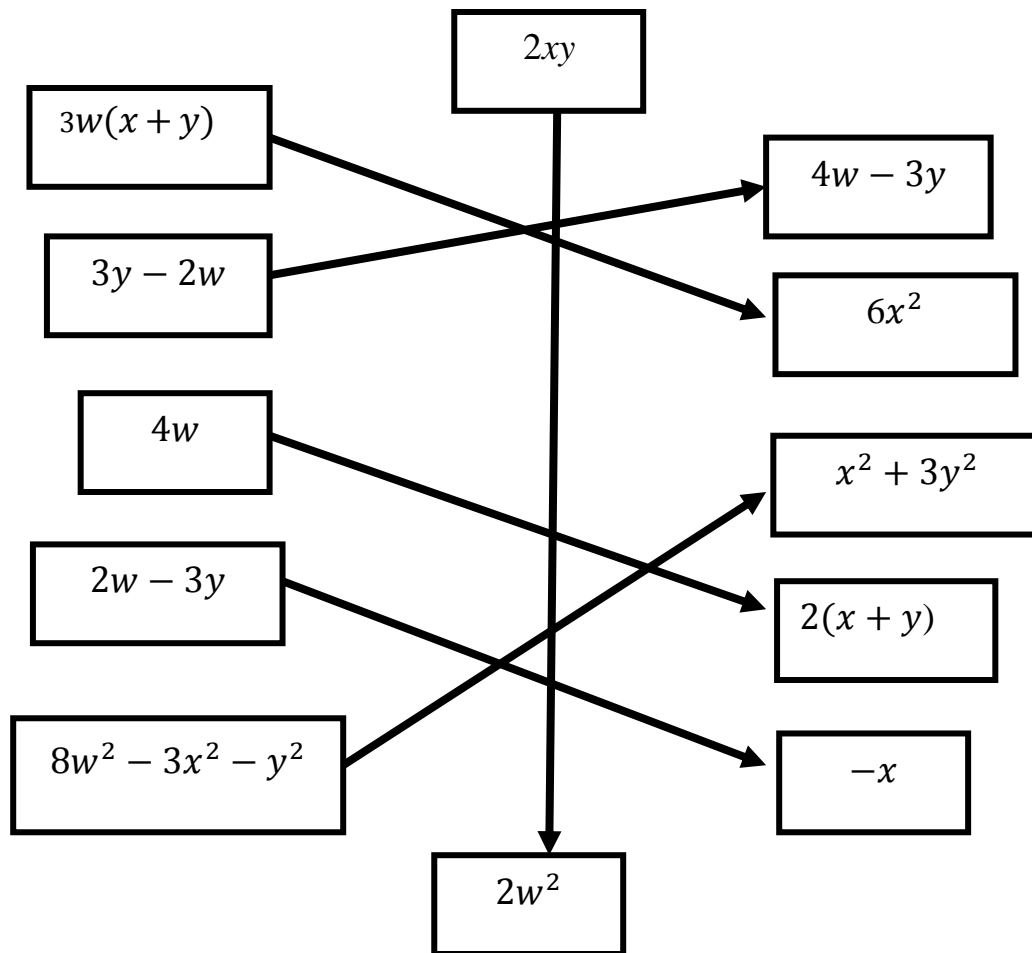
6.



BONUS



7.



I hope you find this useful. If you find any errors, please let me know.