

Join the like terms.

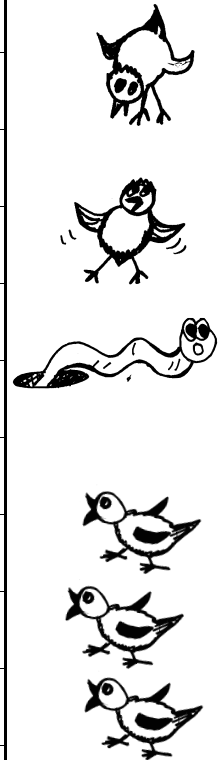
There are \_\_\_\_\_ a  
\_\_\_\_\_ m  
\_\_\_\_\_ b.

Find and join the like terms. How many a, m, b are there? Use 3 different colours or use different kinds of lines. Colour code the sets.

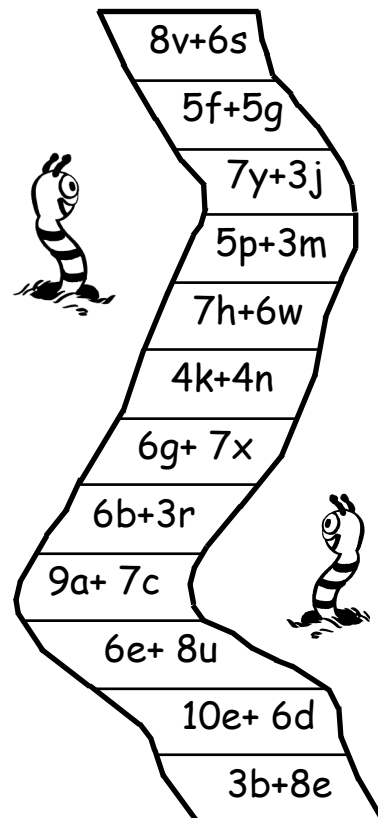
# Simplify by collecting like terms.

	5a	6p	
1	$(2a + 3a)$	$+ (3p + 3p)$	$= \underline{5a + 6p}$
2	$4p + 3p$	$+ 3s + 2s$	$= \underline{\hspace{2cm}}$
3	$3s + 2s$	$+ 2a + 3a$	$= \underline{\hspace{2cm}}$
4	$2a + 3a$	$+ 3p + 4p$	$= \underline{\hspace{2cm}}$
5	$3p + 2p$	$+ 2s + 2s$	$= \underline{\hspace{2cm}}$
6	$4s + 2s$	$+ 3a + 3a$	$= \underline{\hspace{2cm}}$
7	$4p + 2p$	$+ 2a + 3a$	$= \underline{\hspace{2cm}}$
8	$4a + 2a$	$+ 2p + 3p$	$= \underline{\hspace{2cm}}$
9	$4p + 4p$	$+ 2s + 3s$	$= \underline{\hspace{2cm}}$
10	$7p + 2p$	$+ 2s + 2s$	$= \underline{\hspace{2cm}}$
11	$4p + 2p$	$+ 2a + 5a$	$= \underline{\hspace{2cm}}$
12	$7p + 2p$	$+ 3a + 3a$	$= \underline{\hspace{2cm}}$

$7p + 5s$	
$6s + 6a$	
$6a + 5p$	
$5a + 7p$	
$5a + 6p$	
$9p + 6a$	
$5p + 4s$	
$5s + 5a$	
$6p + 7a$	
$6p + 5a$	
$9p + 4s$	
$8p + 5s$	



	5p	3m	
1	$(4p + p)$	$+ (2m + m)$	$= 5p + 3m$
2	$3k + k$	$+ 3n + n$	$= \underline{\hspace{2cm}}$
3	$5b + b$	$+ 2r + r$	$= \underline{\hspace{2cm}}$
4	$7v + v$	$+ 5s + s$	$= \underline{\hspace{2cm}}$
5	$8a + a$	$+ 6c + c$	$= \underline{\hspace{2cm}}$
6	$9e + e$	$+ 5d + d$	$= \underline{\hspace{2cm}}$
7	$4f + f$	$+ 4g + g$	$= \underline{\hspace{2cm}}$
8	$6h + h$	$+ 5w + w$	$= \underline{\hspace{2cm}}$
9	$5g + g$	$+ 6x + x$	$= \underline{\hspace{2cm}}$
10	$6y + y$	$+ 2j + j$	$= \underline{\hspace{2cm}}$
11	$5e + e$	$+ 7u + u$	$= \underline{\hspace{2cm}}$
12	$2b + b$	$+ 7e + e$	$= \underline{\hspace{2cm}}$



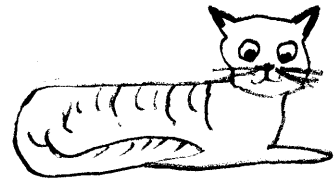
# Simplify.

$$9a + 4 - 2a - 3 =$$

$$(9a - 2a) + (4 - 3) =$$

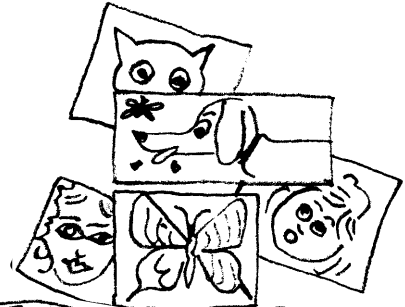
$$7a + 1$$

$$4m + 5 - 2m - 2 =$$

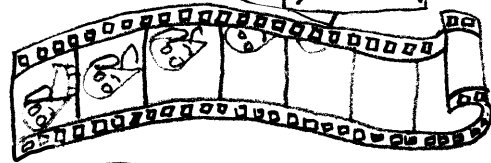


$$10b + 9 - 5b - 4 =$$

$$8n + 5 - 4n - 3 =$$

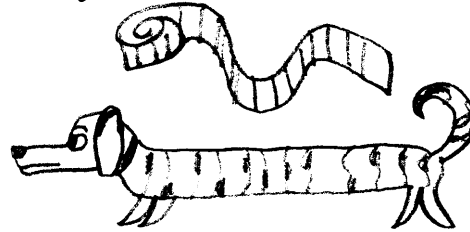


$$7c + 7 - 3c - 5 =$$



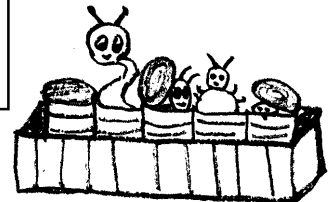
5b+5	
5e+5	
5p+3	
3y+1	
2m+3	
z+1	
5v+3	
7a+1	
4n+2	
d+4	
5f+1	
2j+2	
6w+3	
4k+3	
5h+1	
4c+2	
g+1	

$$10p + 9 - 5p - 6 =$$



$$8f + 3 - 3f - 2 =$$

$$7g + 8 - 6g - 7 =$$



$$3d + 6 - 2d - 2 =$$

$$7e + 7 - 2e - 2 =$$

$$8h + 5 - 3h - 4 =$$

$$9j + 4 - 7j - 2 =$$



$$10k + 8 - 6k - 5 =$$

$$7v + 6 - 2v - 3 =$$

$$6y + 5 - 3y - 1 =$$

$$2z + 3 - z - 2 =$$

$$10w + 6 - 4w - 3 =$$

Collect like terms, and simplify the expressions. Find and tick the answers. *The + or - signs belong to the term following the signs.*



if  $a = 3$   $b = 5$   $c = 4$

$2a = 2 \times a$   
 $2 \times 3$

SUBSTITUTION

$2b =$

$2c =$

$3a = 3 \times a$

$6b =$

$4c =$

$4a =$

I'll do it!

$7b =$

$7c =$

$6a =$

$8b =$

$6c =$

YES



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$ab = a \times b$   
 $3 \times 4$   
  
 $3ab =$

$2bc =$   
  
 $2ac$

$abc =$   
  
 $3ac =$

x	2	3	4	5	6
2a	4a	6a			
3m					
4b					

x	2a	3m	4n
2a			
3m			
4n			
5r			
6s			
7u			
8v			

x	a	b	c	d	e
2a	$2a^2$	2ab			
b					
3c					
d					
e					

x	2m	3n	4p	5r
m				
n				
p				
r				



Complete the tables. Check the answers on the next page.  
REMINDER: the formulae  $a \times a = a^2$ ,  $2a \times a = 2a^2$ .

Find the value of the pronumerals.

1.  $y$  is half of 12.
2.  $m$  is the sum of 3 and 4.
3.  $n$  is equal to 2 times 5.
4.  $k$  is equal to one third of 9.
5.  $q$  is the difference between 9 and 7.
6.  $s$  is five more than a dozen.
7.  $t$  is the total of 5 and 6.
8.  $b$  is 4 more than 10.
9.  $a$  is 3 less than 15.
10.  $c$  is the product of 5 and 6.
11.  $d$  is fifth of 20.
12.  $e$  is the number between 7 and 9.
13.  $f$  is the first even number after 12.
14.  $g$  is the odd number after 18.
15.  $h$  is the third number after 19.

$y =$
$m =$
$n =$
$k =$
$q =$
$s =$
$t =$
$b =$
$a =$
$c =$
$d =$
$e =$
$f =$
$g =$
$h =$