

Match the corresponding terms:

$2n$   $2xn$

$$\frac{n}{2}$$

$$n \div 2$$

$2 + n$  add 2 onto  $n$

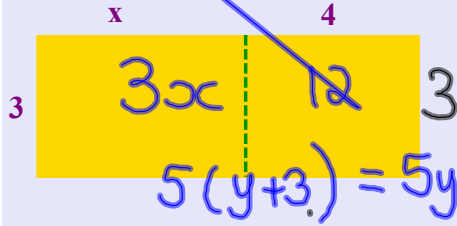
$$\boxed{2n^2} \quad 2 \times n \times n$$

$n - 2$  subtract 2 from  $n$

$2 - n$  take  $n$  from 2

### Multiplying out a bracket

$$3(x+4) = 3x+12$$



$$28 \times 7$$

$$\begin{array}{r} 208 \\ 7 \overline{) 140 \ 56} \\ \underline{140} \phantom{56} \\ \phantom{140} 56 \\ \underline{56} \\ \phantom{140} \phantom{56} 0 \end{array}$$



$$4(x+6) = 4x+24$$

$$5(y+4) = 5y+20$$

$$10(5+b) = 50+10b$$

$$7(x-3) = 7x-21$$

$$6(a-8) = 6a-48$$

$$2(10-b) = 20-2b$$

$$5(2a+5) = 10a+25$$

$$7(3b-1) = 21b-7$$

### Multiplying out brackets

$$1. \ 5(a+2) = 5a+10$$

$$2. \ 10(x-7) = 10x-70$$

$$3. \ 4(5x+3) = 20x+12$$

$$4. \ 6(2x-1) = 12x-6$$

$$5. \ 3(x-20) = 3x-60$$

$$6. \ 4(2y-11) = 8y-44$$

Match the expression to its partner.

$a+a+a+a$

$4 + a$

$a + 2+2$

$4 + 2a$

$a \times a$

$2a$

$4 + a + a$

$4a$

$6+a-a-2$

$a^2$

$6a-4a$

$4$

### Multiplying out a bracket

$$3(x+1) = 3x + 3$$

$$5(x-4) = 5x - 20$$

$$7(2x+7) = 14x + 49$$

$$11(3x-5) = 33x - 55$$

**Multiply out:**

$$1) \quad 5(x-6) = 5x - 30$$

$$2) \quad 3(4+x) = 12 + 3x$$

$$3) \quad 4(2x - 5) = 8x - 20$$

$$4) \quad 6(3 - 10x) = 18 - 60x$$
$$= 8x - 6$$

$$5) \quad 2(4x - 3)$$

## Multiplying out Expressions and simplifying

$$2 + 3(3x - 6) = \\ = 2 + \underline{9x - 18} = 9x - 16$$

$$4x + \boxed{3(x + 5)} = \\ = \underline{4x + 3x + 15} = 7x + 15$$

$$6(2x - 1) - 4x = \\ \underline{12x - 6} - \underline{4x} = 8x - 6$$

$$\boxed{3(x + 4)} + \boxed{2(2x - 5)} = \\ = \underline{3x + 12} + \underline{4x - 10} \\ = 7x + 2$$

$$4(x - 6) + 5(3x + 4) = \\ 4x - 24 + 15x + 20 \\ = 19x - 4$$

$$6(2x - 1) + 4(2x + 3) =$$

page  
375

## Subtracting

$$6(2x - 1) - 4(2x + 3) =$$

$$10(x + 8) - 3(2x - 5) =$$

$$3(x + 4) - 2(2x - 5)$$

$$5(6x - 2) - 7(x + 1) =$$

worksheet g73

## Brackets and Multiplying out:

$$2(x+7) = 2x + 14$$

$$3(x+4) = 3x + 12$$

$$4(5+x) = 20 + 4x = 4(5+x)$$

$$3(x-2) = 3x - 6 = 3(x-2)$$

$$3(2x+1) = 6x + 3 = 3(2x+1)$$

$$5(2+3x) = 10 + 15x = 5(2+3x)$$

## Factorising Expressions

$$2a + 4b = 2(a + 2b)$$

$$3a - 6c = 3(a - 2c)$$

$$2x + 4y - 6z = 2(x + 2y - 3z)$$










$$3a + 15b - 9c = 3(a + 5b - 3c)$$

page 373: C~~1~~<sub>2</sub> - C4

Ext: D1 - D8

see tri loops on hodder yr8

## Solving Puzzles

			<input type="text" value="-2"/>
			<input type="text" value="=15"/>
			<input type="text" value="=21"/>
			<input type="text" value="=?"/>

-1	-1	4
4	4	7
7	7	7

$$\begin{array}{r|l} 2 & 3 \\ \hline 2 & 2 \end{array}$$

		5
		4

		11
		8
10		

		9
7	8	

			15
10		14	

			15
	12	4	

			27
			4
10	8		

			20
			10
	24	5	

			14
			16
10			

## A Formula for success

Emily has  $x$  pencils.  
She lends out 3.  
How many does she have now?



Gio has  $n$  books.  
He picks up another 4.  
How many does he have  
altogether?

Francesca has  $a$  scarves.  
Molly has twice as many.  
How many does Molly have?



Worksheet 29S

## Forming expressions



width =  $x$   
length is 4cm more



length is  $y$   
width is 6cm less



An isosceles triangle  
two sides are  $b$  cm  
the third side is 3 cm more



short side is  $x$  cm  
long side is 12 cm more

## Attachments

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Algebra pyramids answers.doc

function machines.doc

function machines2.doc

Yr 8 A2.doc

algebra pyramids.doc

algebra problems in pictures.odt

algebra problems in puzzles.odt