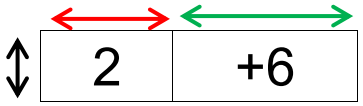
Factorising Single Brackets

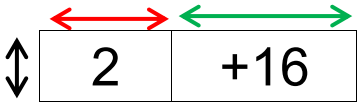
Semi-Abstract Stage

1 In the diagrams below, the figures represent the area of that shape.
Work out the length of each arrow.
Make the black arrow as large as possible.

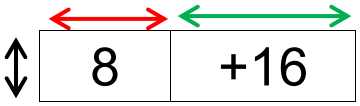
a)



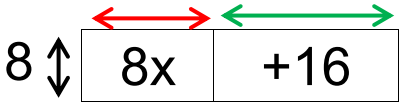
b)



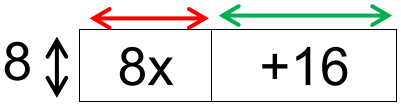
c)



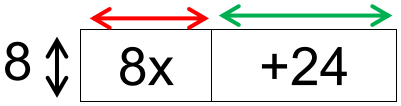
d)



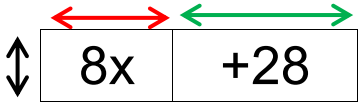
e)



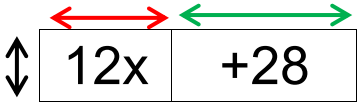
f)



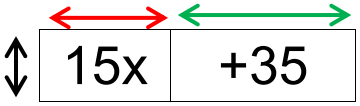
g)



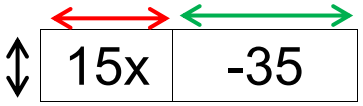
h)



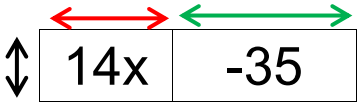
i)



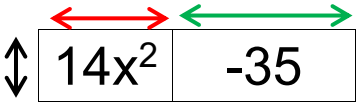
j)



k)

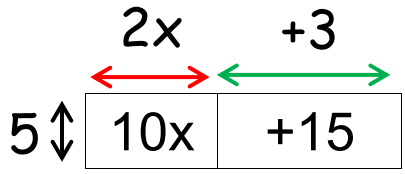


l)



2 For each of the parts in question **1**, write two equivalent expressions to represent the total area of each shape.

Example



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

a)

b)

c)

d)

e)

f)

g)

h)

i)

j)

k)

l)

3 Peter is completing some questions on factorising but needs your help to complete them.

Complete the grids by writing in what Claire should put in each of the boxes containing a capital letter.

a) Factorise $3x + 6$

x	A	B
3	$3x$	$+6$

b) Factorise $3x + 12$

x	C	D
3	$3x$	$+12$

c) Factorise $4x + 12$

x	x	F
E	$4x$	$+12$

d) Factorise $6x + 12$

x	x	H
G	$6x$	$+12$

e) Factorise $6x + 18$

x	J	K
I	$6x$	$+18$

f) Factorise $7x + 21$

x	M	O
L	N	P

g) Factorise $7x - 21$

x	R	T
Q	S	U

h) Factorise $7x - 28$

x	W	Y
V	X	Z

For the following questions, complete the full grid.

i) Factorise $7x - 35$

x		

j) Factorise $5x - 35$

x		

k) Factorise $10x - 35$

x	$2x$	
5	$10x$	

l) Factorise $15x - 35$

X		

m) Factorise $14x - 35$

X		

n) Factorise $21x - 35$

X		

o) Factorise $35 - 15x$

X		
	35	$-15x$

p) Factorise $35 - 12x$

X		