

The Distributive Law

The distributive Law is a way to multiply :

ex. $5(x+2)$
 ↑
 coefficient

The coefficient multiplies
all the terms inside the brackets.

Ex. Expand each expression :

a) $5(x+4)$
 $5 \cdot x + 5 \cdot 4$
 $5x + 20$

b) $3(r-7)$
 $3 \cdot r - 3 \cdot 7$
 $3r - 21$

c) $-8(y+2)$
 $-8 \cdot y + -8 \cdot 2$
 $-8y + -16$
OR
 $-8y - 16$

d) $-6(m-3)$
 $-6 \cdot m - -6 \cdot 3$
 $-6m - -18$
 $-6m + 18 \checkmark$

Ex. Solve using the distributive Law :

$$4(x-5) = -32$$

$$4x - 20 = -32$$

$$\begin{array}{r} +20 +20 \\ \hline 4x = -12 \\ \hline \frac{4x}{4} = \frac{-12}{4} \\ \hline \boxed{x = -3} \end{array}$$

get rid of brackets

Follow solving Rules

check: $4(-3-5) = -32$
 $4(-8) = -32$
 $-32 = -32 \checkmark$

Ex. solve by dividing first:

$$\frac{5(m-3)}{5} = \frac{-25}{5}$$

$$m-3 = -5$$

* Reverse BEDMAS
 1ST M/D
 2ND Brackets

$$m - 3 = -5$$

+3 +3

$$m = -2$$

1st M/D

2nd Brackets
(which disappear)

1. Dist Law WS

2. Page 398 # 8, 9