

The Distributive Property in disguise?

$$a (b + c) = ab + ac$$



Box Method?

(used in CMP text as area model)

Vertical Method?

(preferred method of WHS math teachers)

F.O.I.L.?

(only works when binomial times a binomial)

Box Method? $(3x+8)(x-4)$
(used in CMP text)

$3x$	$3x^2$	$-12x$
8	$8x$	-32
	x	-4

$$3x^2 - 12x + 8x - 32$$
$$3x^2 - 4x - 32$$

Vertical Method?
(preferred method of WHS math teachers)

$$(3x + 8)(x - 4)$$

$$\begin{array}{r}
 3x + 8 \\
 \times \quad x - 4 \\
 \hline
 -12x - 32 \\
 + 3x^2 + 8x \\
 \hline
 3x^2 - 4x - 32
 \end{array}$$

F.O.I.L.?

(only works when binomial times a binomial)

$$(3x + 8)(x - 4)$$

First
Outer
Inner
Last

$$(3x + 8)(x - 4)$$

$$3x^2 - 12x + 8x - 32$$

$$3x^2 - 4x - 32$$

Distributive

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

$$\begin{array}{r} x+5 \\ \times \quad 2x^3 \\ \hline 2x^4 + 10x^3 \end{array}$$

Vertical

$2x^3$	$2x^4$	$10x^3$
	x	5

Box

Now your turn to practice these different methods. Write each expression in expanded form.

$$1.) x(x+2)$$
$$x^2 + 2x$$

$$2.) 3c(c-5)$$
$$3c^2 - 15c$$

$$3.) 2x^2(x+9)$$
$$2x^3 + 18x^2$$

$$4.) 2(a^2+8a+1)$$
$$2a^2 + 16a + 2$$

$$5.) 2x^2(4x+1)$$
$$8x^3 + 2x^2$$

$$6.) 3l(l^2+4l-6)$$

$$7.) (x+2)(x+3)$$

$$8.) (x+5)(x+1)$$

$$9.) (a+b)^2$$

$$10.) (a+b)(a-b)$$