

Distributive Property

$$1. \quad 5x(x-7)$$
$$5x^2 - 35x$$

$$2. \quad -2m(m+9)$$
$$-2m^2 - 18m$$

$$3. \quad 4d^2(d+3)$$
$$4d^3 + 12d^2$$

$$4. \quad -e^2(3e-7)$$
$$-3e^3 + 7e^2$$

$$5. \quad 9x(2x^3 - 5x^2 + x)$$
$$18x^4 - 45x^3 + 9x^2$$

$$6. \quad -7y^3(8y^2 + 9y - 1)$$
$$-56y^5 - 63y^4 + 7y^3$$

F O I L

First Outside Inside Last

$$(a + b)(c + d)$$
$$ac + ad + bc + bd$$

Box Method

Ex 1 $(x+2)(x+1)$

	x	+1
x	x^2	$1x$
+2	$2x$	2

$x^2 + 3x + 2$

Ex 2 $(y+3)(y-4)$

	y	-4
y	y^2	$-4y$
3	$3y$	-12

$y^2 - 4y + 3y - 12$

$y^2 - y - 12$

Ex 3 $(a-5)(a-7)$

	a	-7
a	a^2	$-7a$
-5	$-5a$	$+35$

$a^2 - 7a - 5a + 35$

$a^2 - 12a + 35$

Ex 4 $(3x+2)(x+4)$

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

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

$3x^2 + 14x + 8$

Ex 5

	b	-4
5b	$5b^2$	$-20b$
9	$9b$	-36

$5b^2 - 11b - 36$

Ex 6 $(2n-7)(3n+3)$

	3n	3
2n	$6n^2$	$6n$
-7	$-21n$	-21

$6n^2 - 15n - 21$

Ex 7

	2x	-5
2x	$4x^2$	$-10x$
-5	$-10x$	$+25$

Ex 8 $(8r^2 - 2r)(5r + 4)$

	5r	4
8r ²	40r ³	32r ²
-2r	-10r ²	-8r

$40r^3 + 22r^2 - 8r$

Ex 9 $(2x + 5y)(7y - 3x)$

	7y	-3x
2x	14xy	-6x ²
5y	35y ²	-15xy

$-6x^2 - xy + 35y^2$