

Multiplying Binomials

$$47 \cdot 31$$

↓ ↘

$$(40+7) (30+1)$$

	40	7	
	30 · 40	30 · 7	1200
30	1200	210	210
	40 · 1	1 · 7	40
1	40	7	7
			1457

$$53 \cdot 34$$

↻ ↻ ↻ ↻

$$1500$$

$$200$$

$$90$$

$$\frac{12}{1802}$$

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

↙ ↘

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

$$x^2 + 7x + 2x + 14$$

$$x^2 + 9x + 14$$

double distributive
collect like terms

Ex. $(2x+5)(x-3)$

↙ ↘

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

$$2x^2 - 6x + 5x - 15$$

$$2x^2 - x - 15$$

Ex. $(x+9)^2$

$$(x+9)(x+9)$$

$$x^2 + 18x + 81$$

laws only work on monomials

if you tried to use an exponent law $(x+9)^2$

$$x^2 + 9^2$$

$$x^2 + 81$$

missing the middle term