8-3B: Multiplying Binomials

p.383 #1-4 all, #11-19 odds

1) 30
2) 35
3) -7
4) 11

11) $r^2+2r-24$
13) $x^2 -x -42$
15) $4b^2 +10b -6$
17) $x^2 +2x -63$
19) $p^2 +9p -10$

Due tomorrow p.383 #12-24 even

Copy and fill in each blank.

1. $(5a + 2)(6a - 1) = \square a^2 + 7a - 2$

2. $(3c - 7)(2c - 5) = 6c^2 - 29c + \square$

3. $(z - 4)(2z + 1) = 2z^2 - \square z - 4$

4. $(2x + 9)(x + 2) = 2x^2 + \square x + 18$

Simplify each product using FOIL.

11. $(r + 6)(r - 4)$

12. $(y + 4)(5y - 8)$

13. $(x + 6)(x - 7)$

14. $(m - 6)(m - 9)$

15. $(4b - 2)(b + 3)$

16. $(8w + 2)(w + 5)$

17. $(x - 7)(x + 9)$

18. $(a + 11)(a + 5)$

19. $(p - 1)(p + 10)$

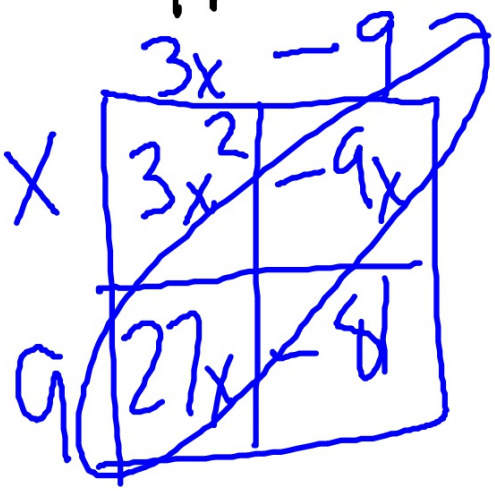
Eg $(x+9)(3x-9)$

The First terms are x and $3x$.

The Outer terms are x and -9

The Inner terms are 9 and $3x$.

The Last terms are 9 an -9.



$3x^2+14x-81$

1) Find the product using FOIL.

$$(x + 5)(x + 4)$$

$x^2 + 4x + 5x + 20$

$x^2 + 9x + 20$

2) Factor the binomial (find the GCF first!)

$$4x^2 + 10x$$

$2x(2x + 5)$

You can use an area model to multiply two binomials. The diagram below shows $(2x + 3)(x + 4)$.

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

$$(x + 5)\,(x^2 - 3x - 5)$$

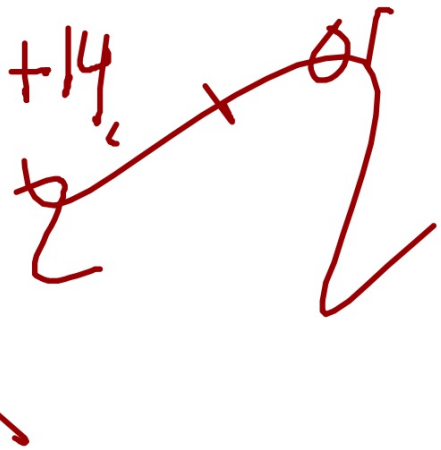
	x^2	$-3x$	-5
x	x^3	$-3x^2$	$-5x$
5	$5x^2$	$-15x$	-25

$$x^3 + 2x^2 - 20x - 25$$

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

$21x^2 + 21x + 14x + 14$

$\therefore 21x^2 + 35x + 14$



$(5x+10)(7x-4)$

$35x^2 + 50x - 40$

$(5x+10)(7x^2-4x-6)$

$35x^3 + 50x^2 - 70x - 60$

$$(2x-6)(3x^2+6x-4)$$

	$3x^2$	$6x$	-4
$2x$	$6x^3$	$12x^2$	$-8x$
-6	$-18x^2$	$-36x$	$+24$

$$6x^3-6x^2-44x+24$$

nplify each product using ~~FOIL~~. any method.

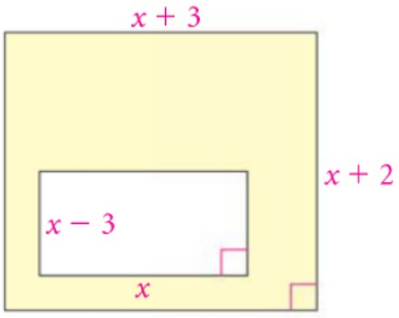
. $(r + 6)(r - 4)$ **12.** $(y + 4)(5y - 8)$ **13.** $(x + 6)(x - 7)$

. $(m - 6)(m - 9)$ **15.** $(4b - 2)(b + 3)$ **16.** $(8w + 2)(w + 5$

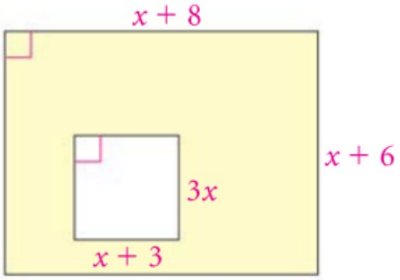
. $(x - 7)(x + 9)$ **18.** $(a + 11)(a + 5)$ **19.** $(p - 1)(p + 10)$

Find an expression for the area of each shaded region. Simplify.

20.



21.



Simplify. Use the vertical method.

22. $(x + 9)(x^2 - 4x + 1)$ **23.** $(a - 4)(a^2 - 2a + 1)$

24. $(g - 3)(2g^2 + 3g + 3)$ **25.** $(k + 8)(3k^2 - 5k + 7)$