19.

a) $x^2 + \boxed{11}x + 10$

7

10

1 10 : 11

2 5 : 7

14. c) $x^2 + 12x - 28$

$= (x - 2)(x + 14)$

-28

1 -28

-1 28

2 -14

-2 14

* check

1) FOIL

2) Distributive Property

3) Rectangle diagram

	x	-2
x	x^2	$-2x$
14	$14x$	-28

$x^2 - 2x + 14x - 28$

$x^2 + 12x - 28$

Factoring Review

- Algebra tiles
  - rectangle → factors = length & width
  - equal groups.

- Common Factoring
  - "take out" GCF

$5x + 20$
$= 5(x + 4)$

- Trinomials $ax^2 + bx + c$

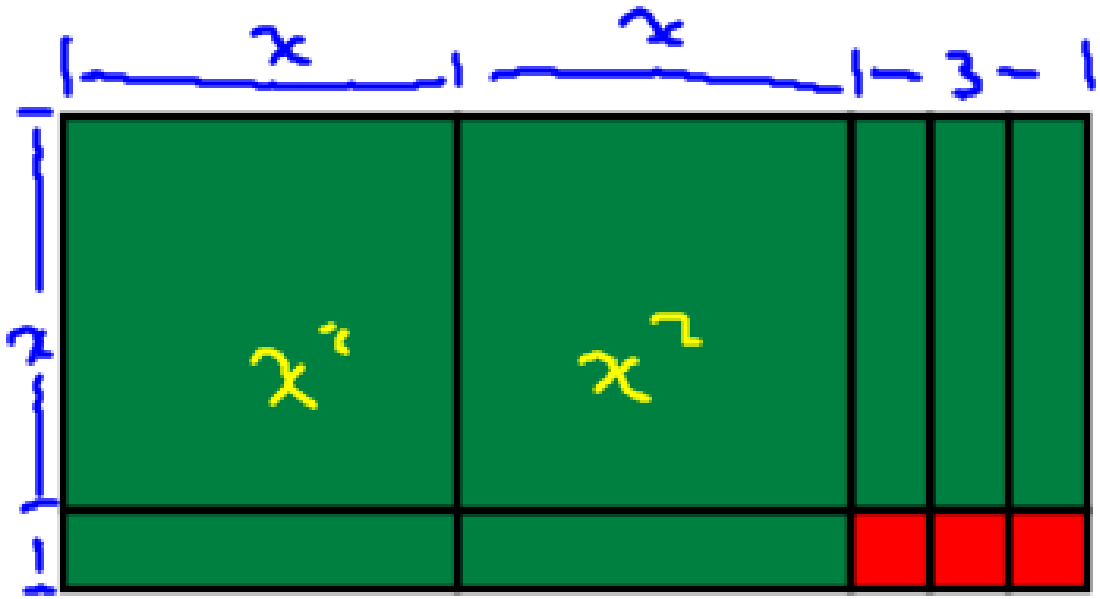
$a = 1$

factors of 'c' that add to 'b'

$x^2 + 5x + 6 = (x + 2)(x + 3)$

3.6 Polynomials of the Form $ax^2 + bx + c$

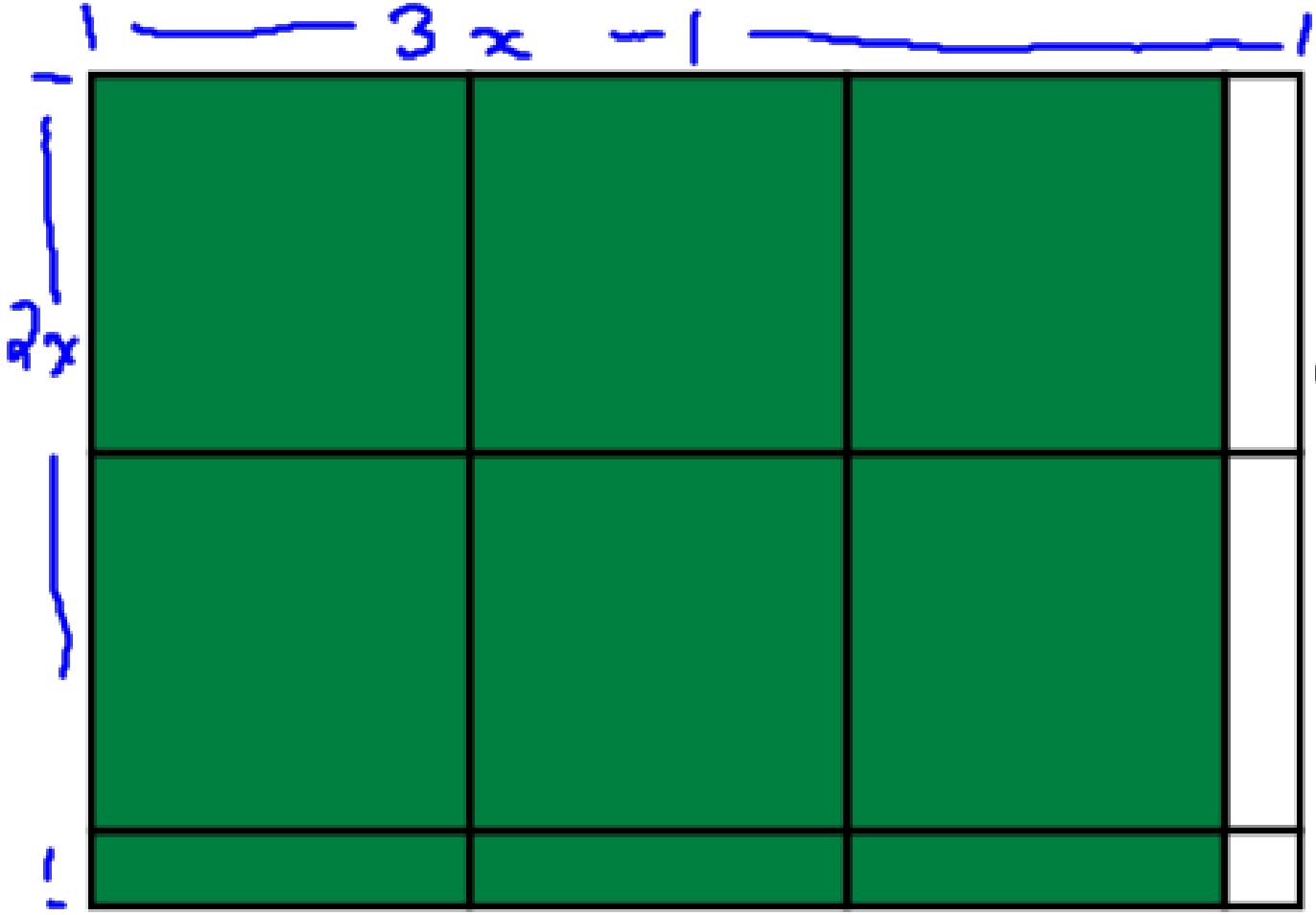
$a \neq 1$



$2x^2 + 5x + 3 = (2x + 3)(x + 1)$ multiplication sentence

Area model

	$2x$	3
x	$2x^2$	$3x$
1	$2x$	3



Area Model

	$3x$	-1
$2x$	$6x^2$	$-2x$
1	$3x$	-1

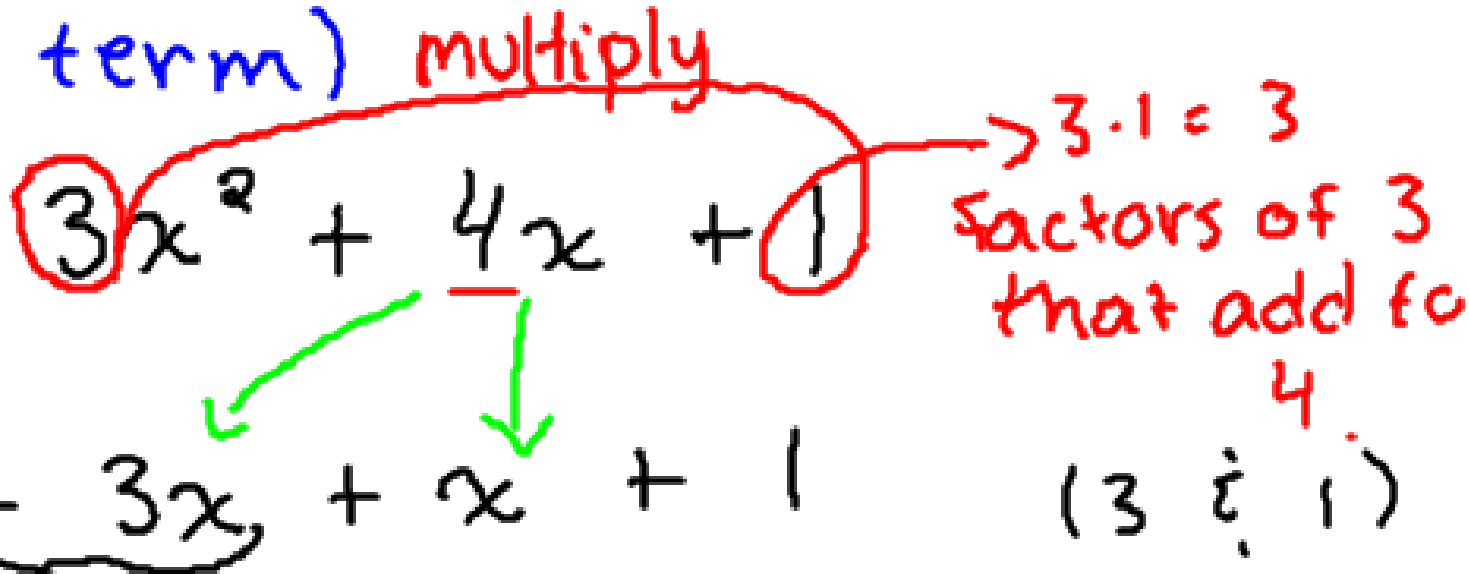
$$6x^2 - 2x + 3x - 1$$

$$6x^2 + x - 1 = (3x-1)(2x+1)$$

Factoring by Decomposition: $3x^2 + 4x + 1$

Is there a common factor? No

* use decomposition (we will breakdown the bx term) multiply



* arrange the decomposed term so that you can group with a common factor.

$3x(x+1) + 1(x+1)$

$= (x+1)(3x+1)$

*check.

$3x^2 + x + 3x + 1$

$3x^2 + 4x + 1$ ✓

Factor: $2x^2 + 13x + 15$

$2 \cdot 15 = 30$

factors of 30

1	30
2	15
3	10
5	6

$2x^2 + 10x + 3x + 15$

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

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

p. 177 - #5, 8, 9, 13*

↳ decomposition

Factor:

Factor:

Do p. 177 - #5-9
p. 178 - #14-18