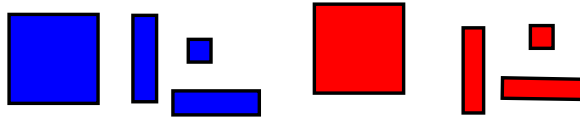
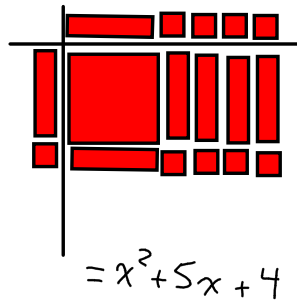


### 3.5 Expanding Binomials

Expand the following binomials using algebra tiles or the chart:



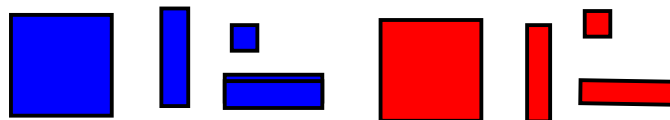
Algebra Tiles:  
 $(x + 1)(x + 4)$



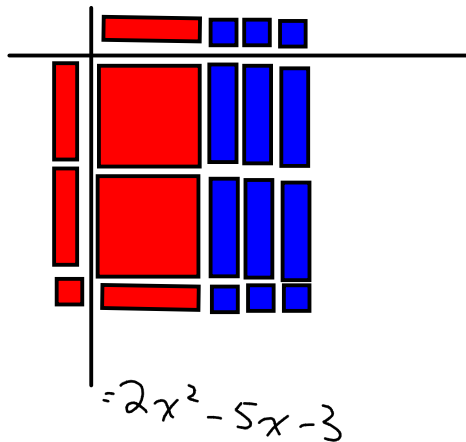
	$x$	$4$
$x$	$x^2$	$4x$
$1$	$x$	$4$

$= x^2 + 4x + x + 4$   
 $= x^2 + 5x + 4$

Mar 30-12:28 PM



b)  $(2x+1)(x-3)$



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

$= 2x^2 - 6x + x - 3$   
 $= 2x^2 - 5x - 3$

Nov 9-7:56 AM

Ex. 1 Expand the following algebraically

Use  
Distributive  
Property!

a)  $(x-5)(4x-3)$   
 $= 4x^2 - 3x - 20x + 15$   
 $= 4x^2 - 23x + 15$

b)  $(2x+2)(3x-4)$   
 $= 6x^2 - 8x + 6x - 8$   
 $= 6x^2 - 2x - 8$

c)  $(\frac{1}{2}x - 4)(x + 6)$   

	$x$	$6$
$\frac{1}{2}x$	$\frac{1}{2}x^2$	$3x$
$-4$	$-4x$	$-24$

 $= \frac{1}{2}x^2 - x - 24$

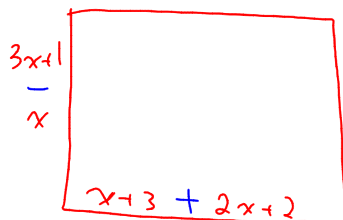
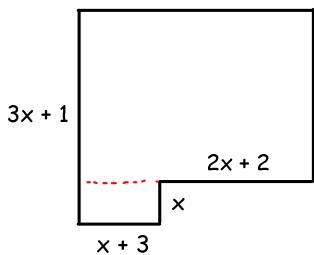
d)  $(5x^2 - 3y)(2x - y^2)$   
 $= 10x^3 - 5x^2y^2 - 6xy + 3y^3$

e)  $(2x - 3)(2x + 3)$   
 $= 4x^2 + 6x - 6x - 9$   
 $= 4x^2 - 9$

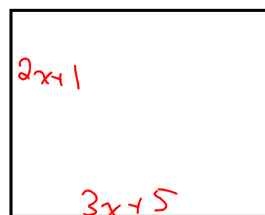
f)  $(2x - 5)^2$   
 $= (2x - 5)(2x - 5)$   
 $= 4x^2 - 10x - 10x + 25$   
 $= 4x^2 - 20x + 25$

Mar 30-12:37 PM

Ex. 2 Write an expression, in simplified form, for the area of this shape



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



$= (2x+1)(3x+5)$   
 $= 6x^2 + 10x + 3x + 5$   
 $= 6x^2 + 13x + 5$

Total Area  
 $= \text{Big Rect} + \text{Small Rect}$   
 $= 6x^2 + 13x + 5 + x^2 + 3x$

$= 7x^2 + 16x + 5$

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Practice  
page 239  
# 1d, 2d 3-7 cf, 11, 14

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**“Algebra class will be important to you later in life because there’s going to be a test six weeks from now.”**

Mar 30-1:19 PM