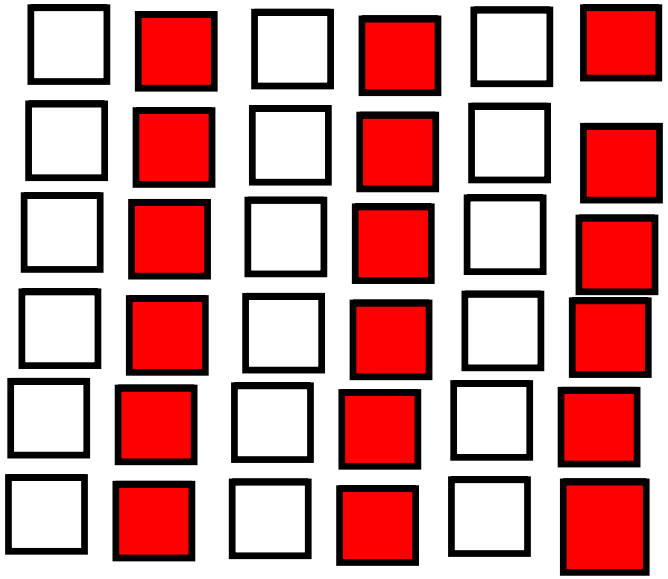
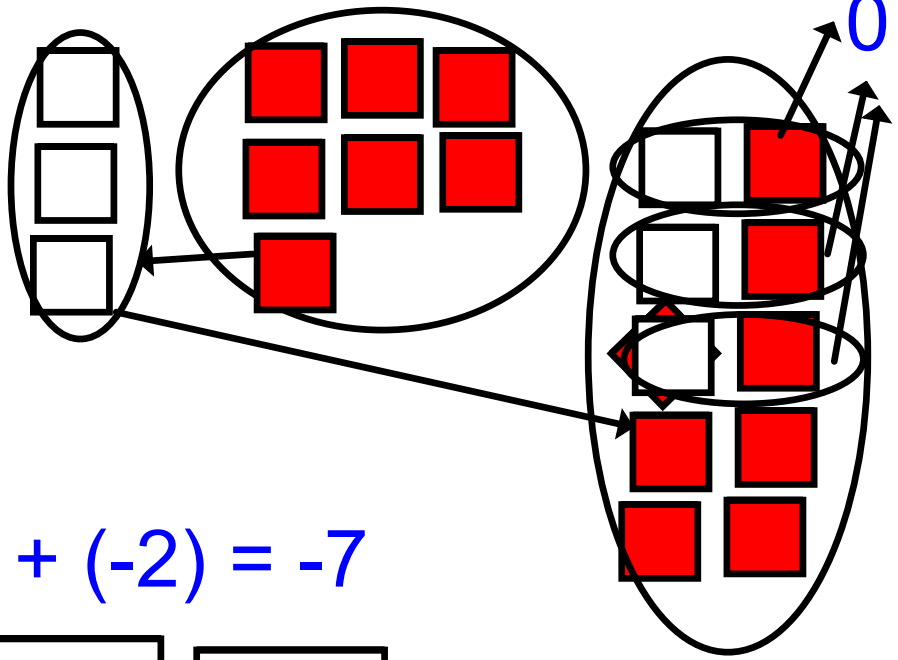
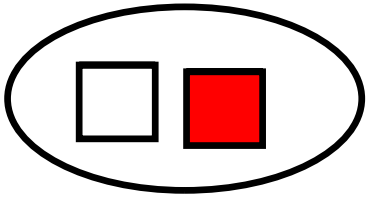


(-3) + (+7) = +4

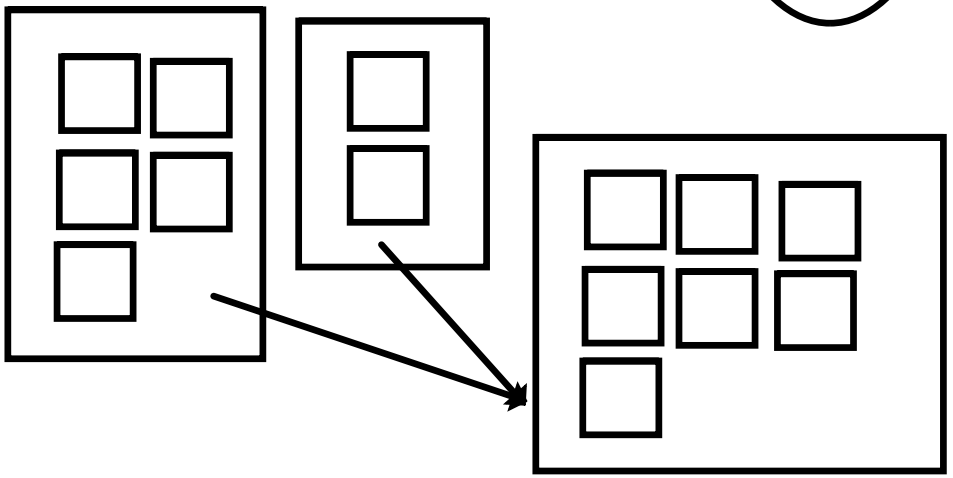




the Zero Model

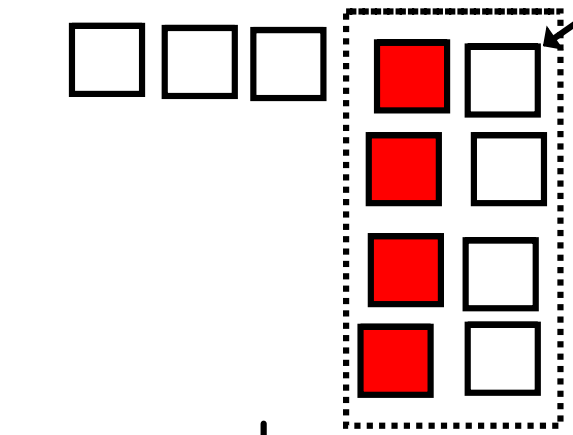
(+1) + (-1) = 0

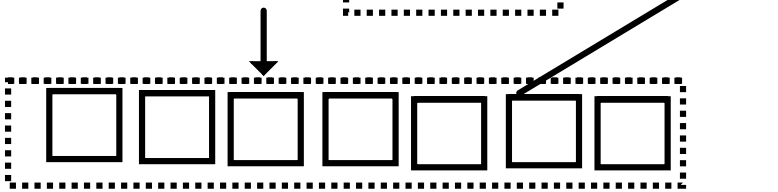
(-5) + (-2) = -7



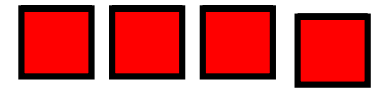
(-3) - (-7)

Add zeros until I have enough tiles to take away 7 negatives.

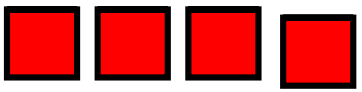




Then take away 7 negatives.



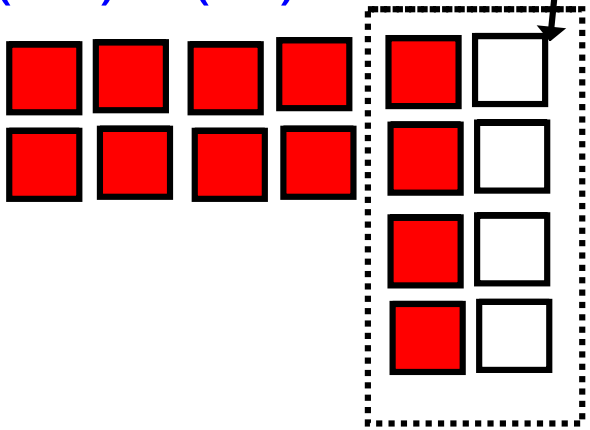
The solution is +4.



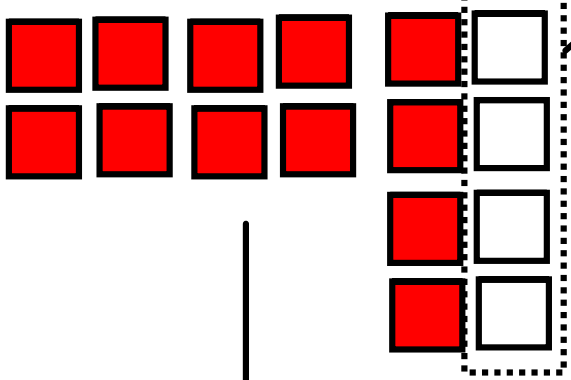
(-3) - (-7) = +4

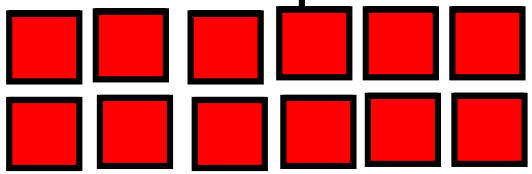
(+8) - (-4)

Add zeros until I have enough tiles to take away 4 negatives.

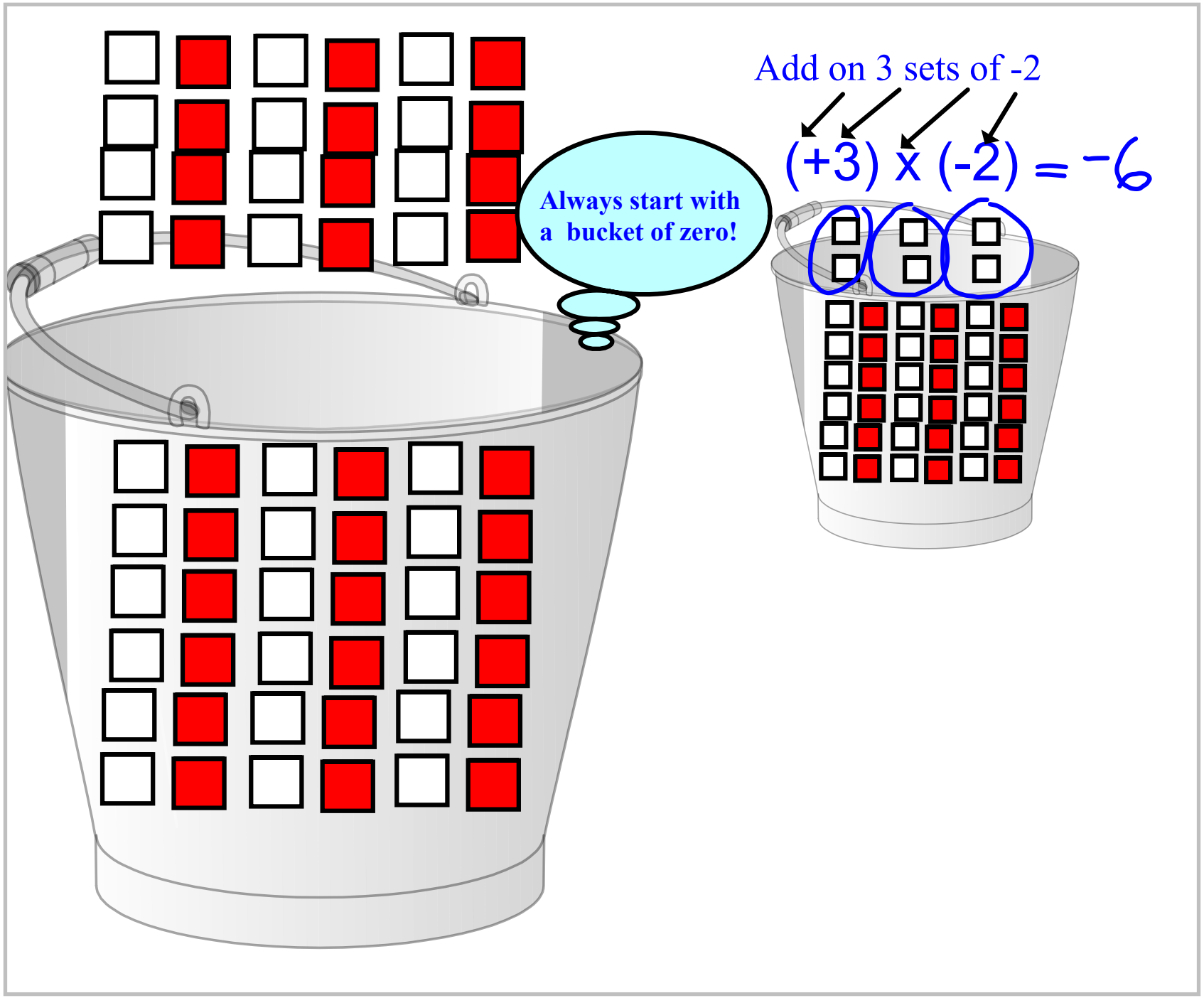


Take away (-4)





(+8) - (-4) = +12


Always start with a bucket of zero!
Add on 3 sets of -2
(+3) x (-2) = -6

Take off 5 sets of -2

(-5) x (-2)

(-5) x (-2) = +10

Take off 3 sets of +4

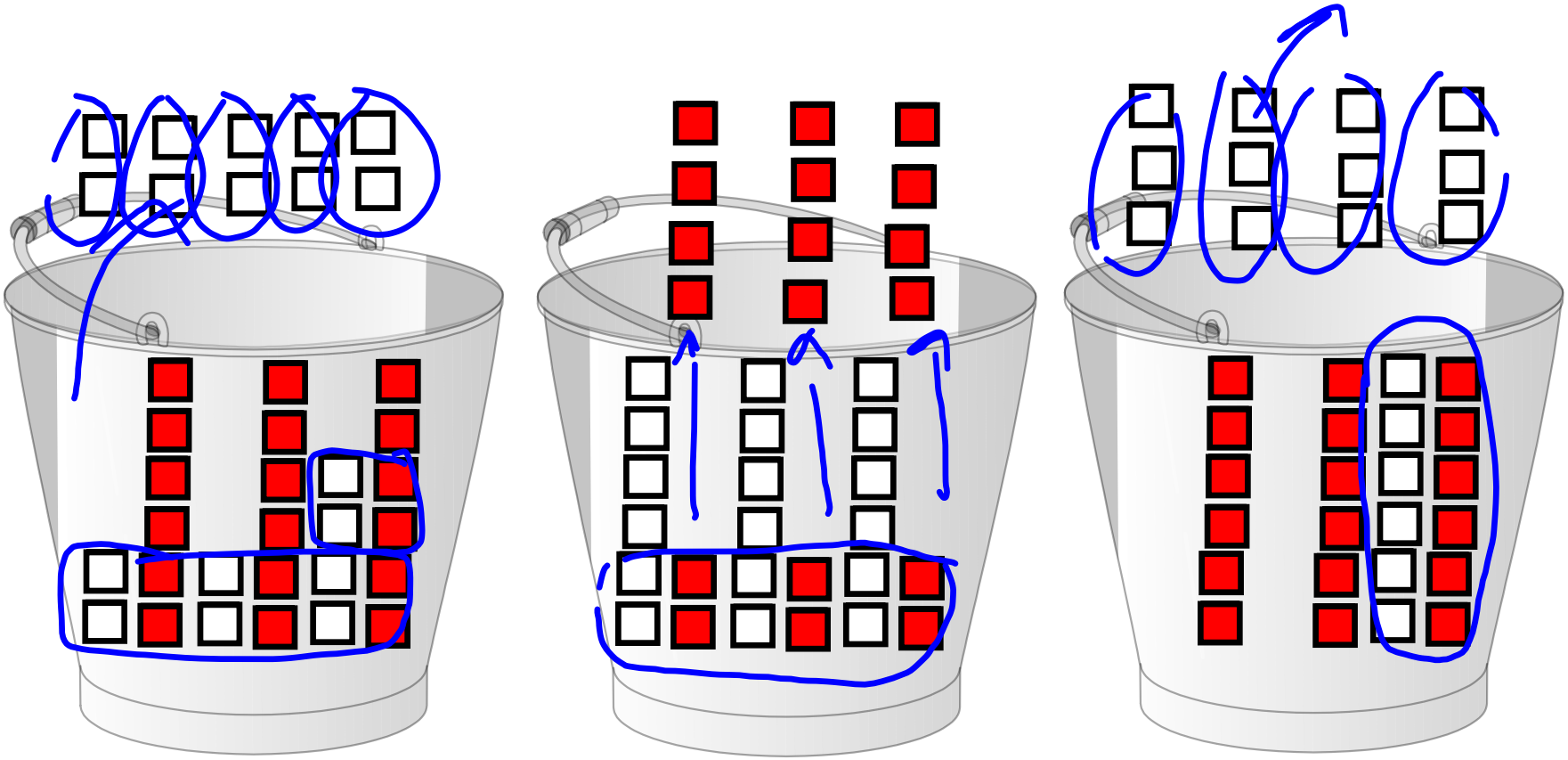
(-3) x (+4)

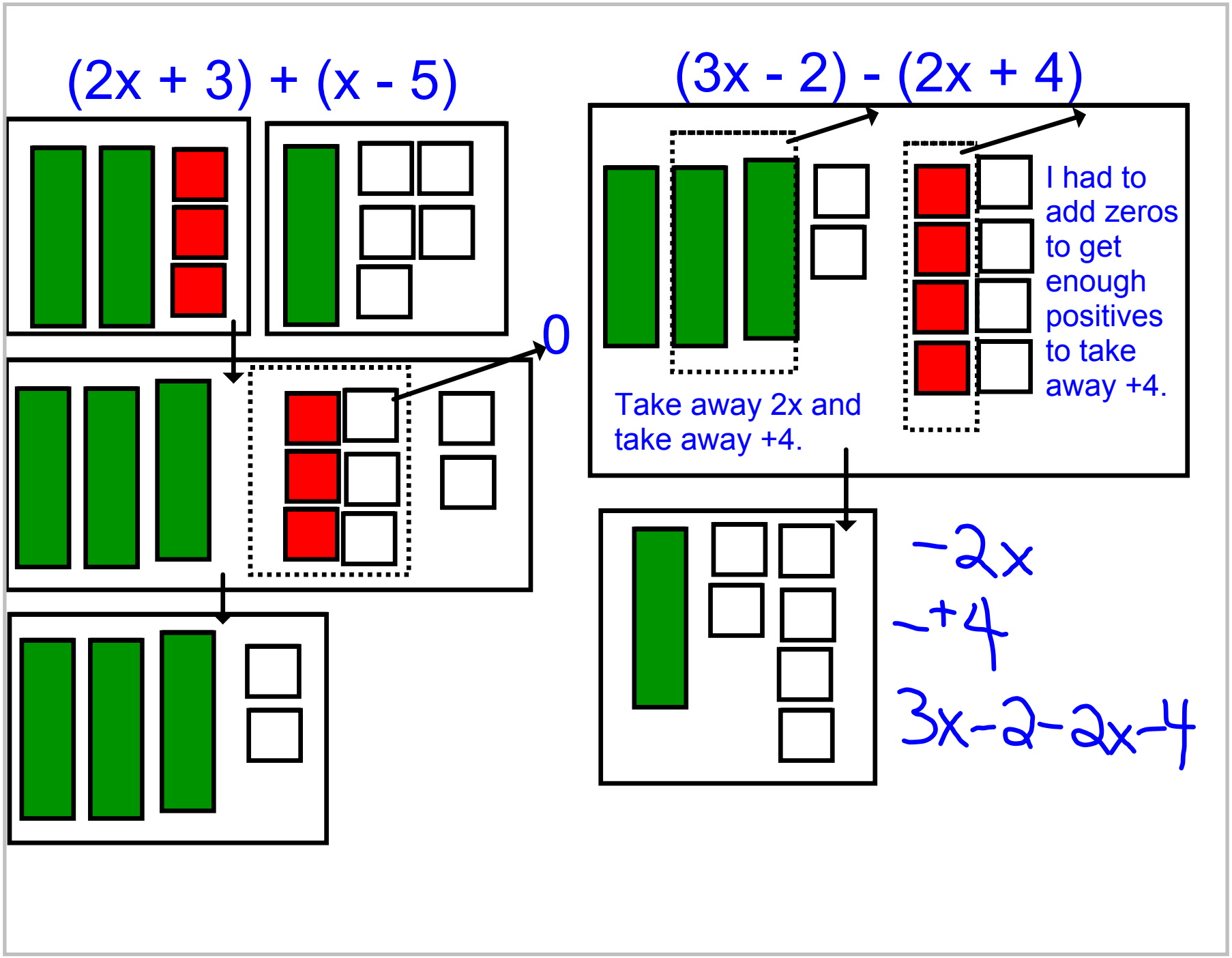
(-3) x (+4) = -12

Take off 4 sets of -3

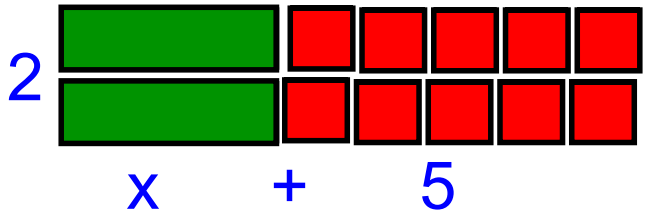
(-4) x (-3)

(-4) x (-3) = +12



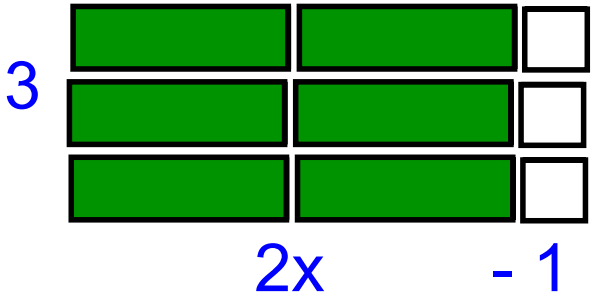

(2x + 3) + (x - 5)
0
(3x - 2) - (2x + 4)
I had to add zeros to get enough positives to take away +4.
Take away 2x and take away +4.
-2x
-+4
3x-2-2x-4

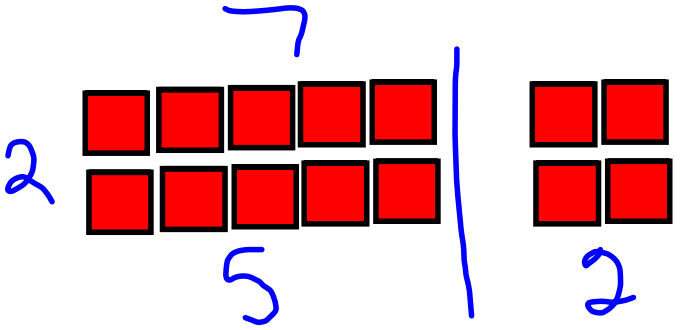
$2(x + 5) = 2x + 10$

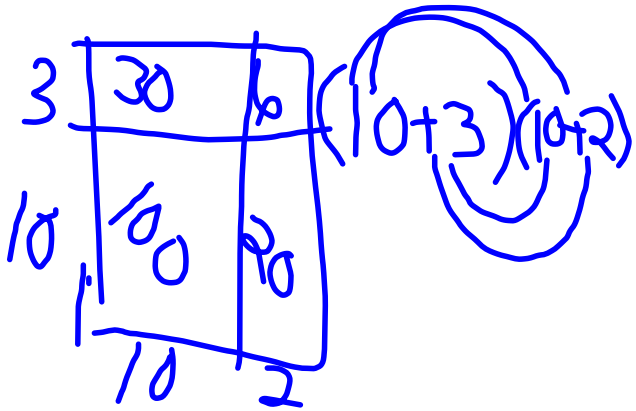


Use Area Models

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





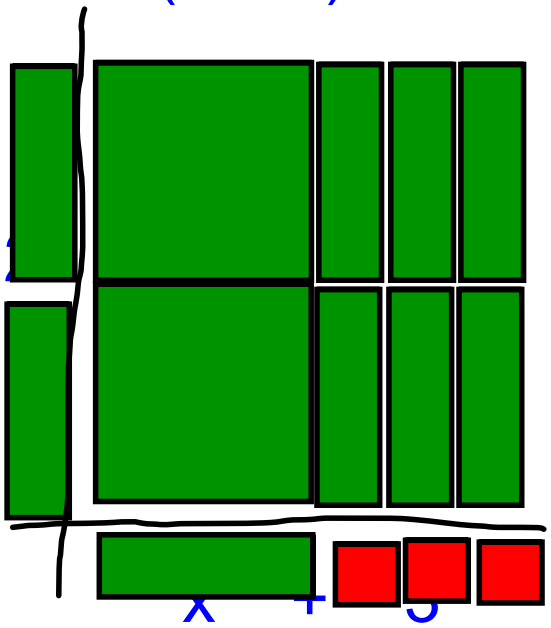


2×7

$2 \times 5 + 2 \times 2$

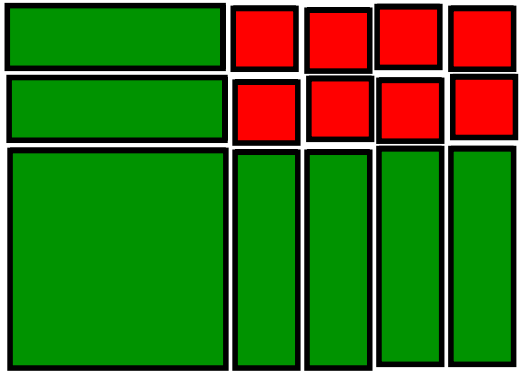
$2(5+2)$

2x(x + 3)



2x(x + 3)
2x2+ 6x

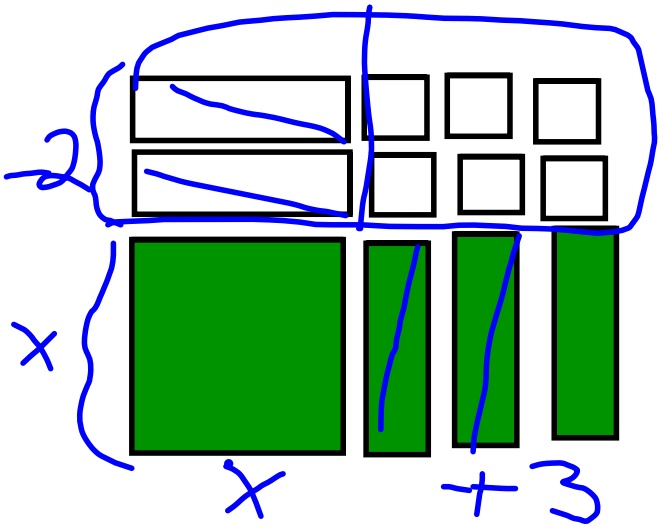
(x + 2)(x + 4)



(x + 4)

(x + 2)(x + 4)
x2+ 4x + 2x + 8
x2+ 6x + 8

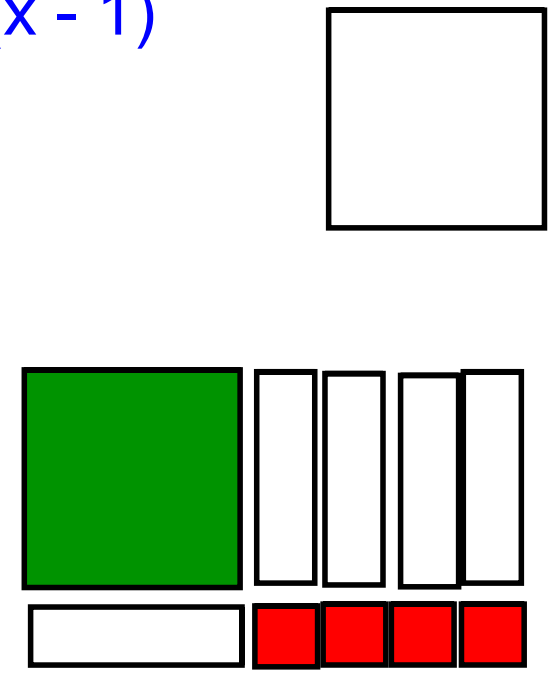
$(x + 3)(x - 2)$



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

$x^2 + x - 6$

$(x - 4)(x - 1)$

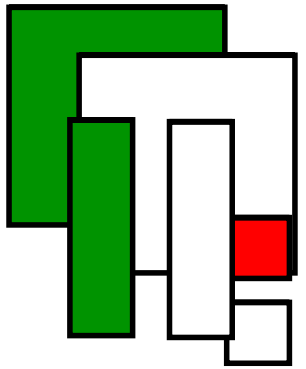


$x^2 - x - 4x + 4$

$x^2 - 5x + 4$

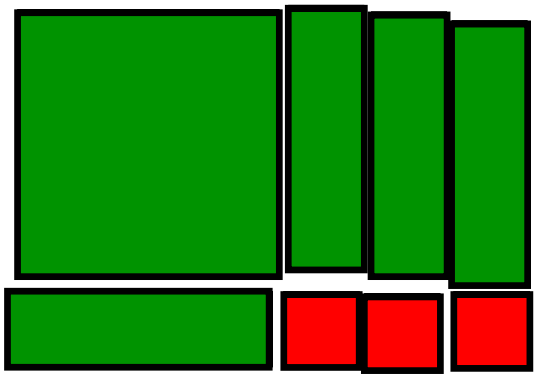
$(2x + 1)(x - 2)$

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



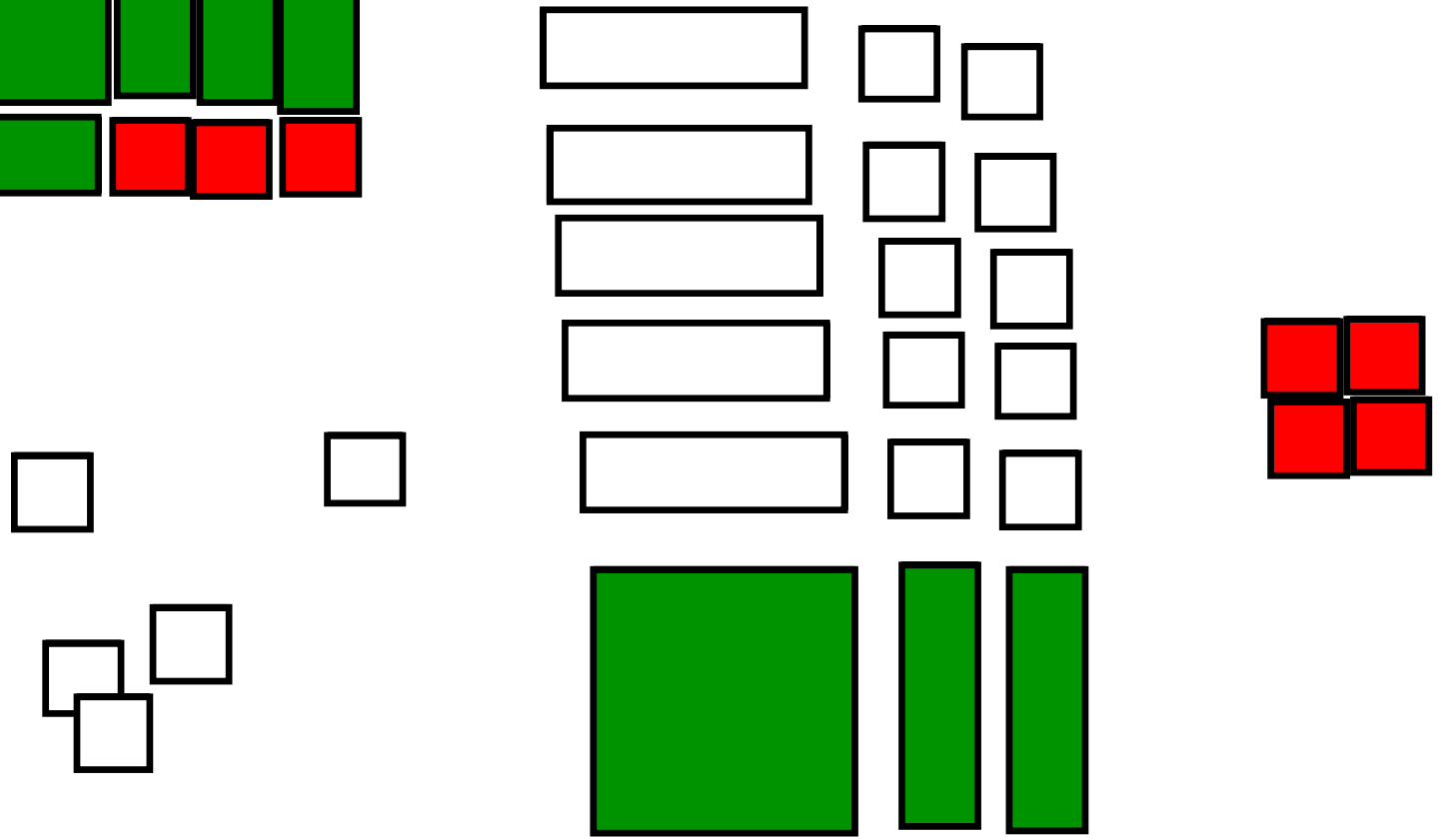
$x^2 + 4x + 3$

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

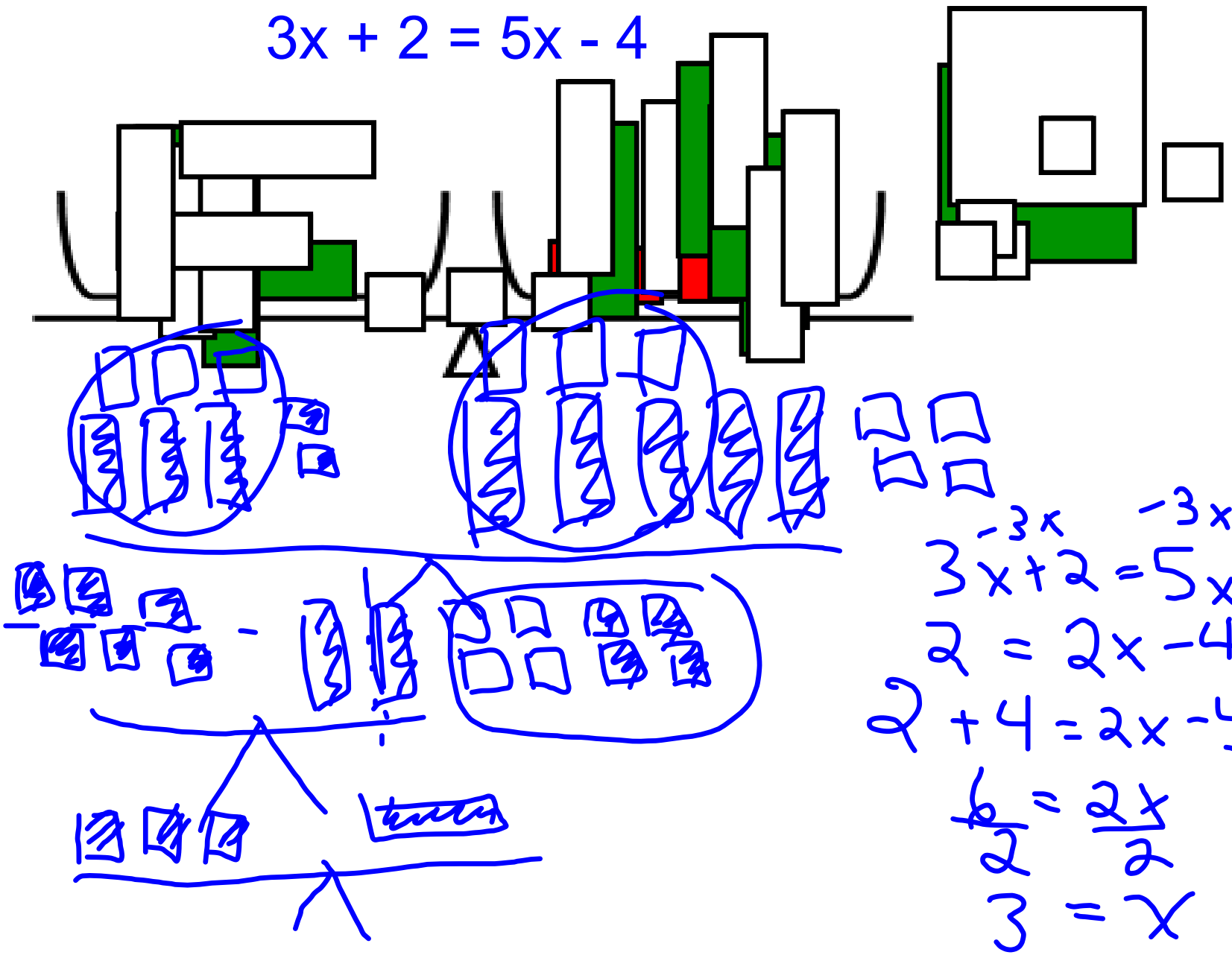


$x^2 - 3x - 10$

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

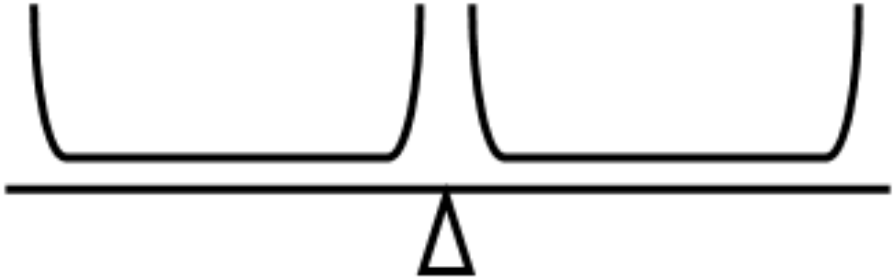


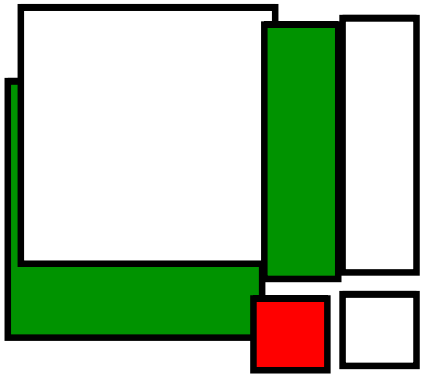
$3x + 2 = 5x - 4$

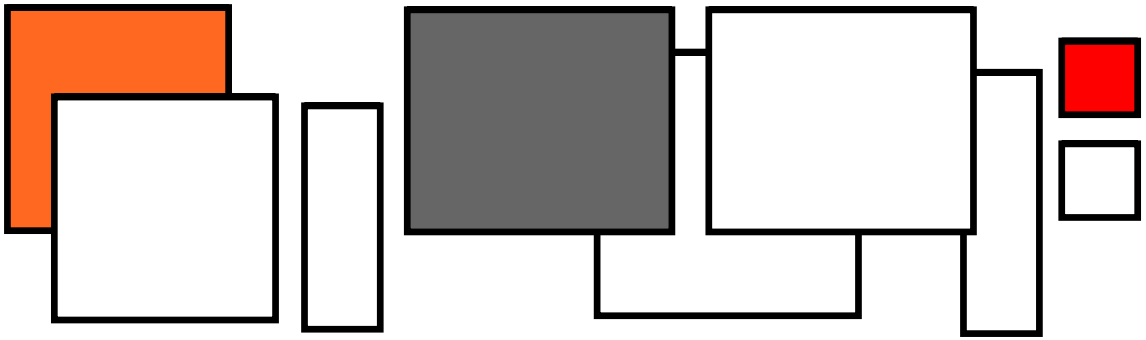


$$3x+2=5x-4$$
$$-3x \quad -3x$$
$$2 = 2x - 4$$
$$2+4 = 2x-4+4$$
$$\frac{6}{2} = \frac{2x}{2}$$
$$3 = x$$

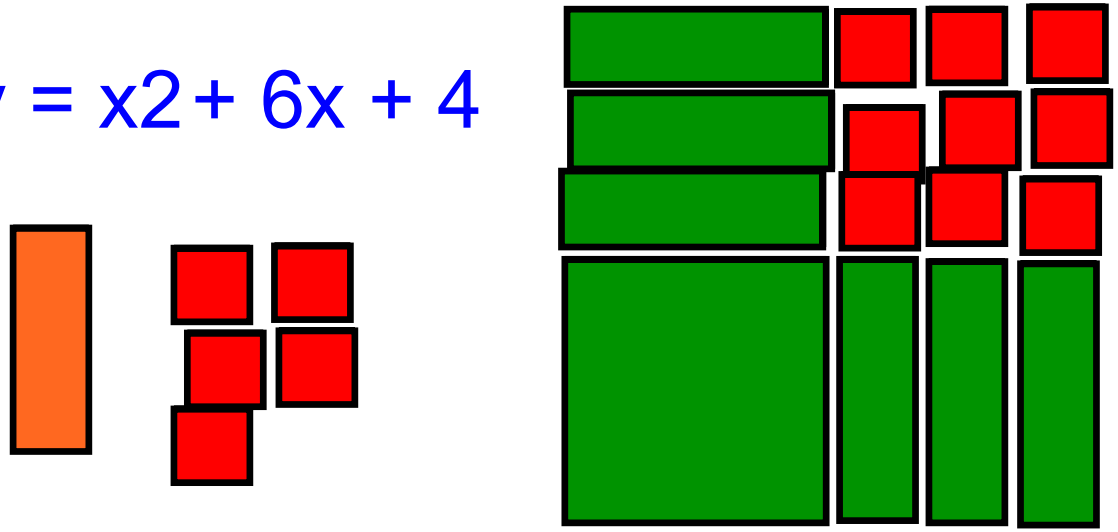
$$2x - 3 = 4x + 1$$



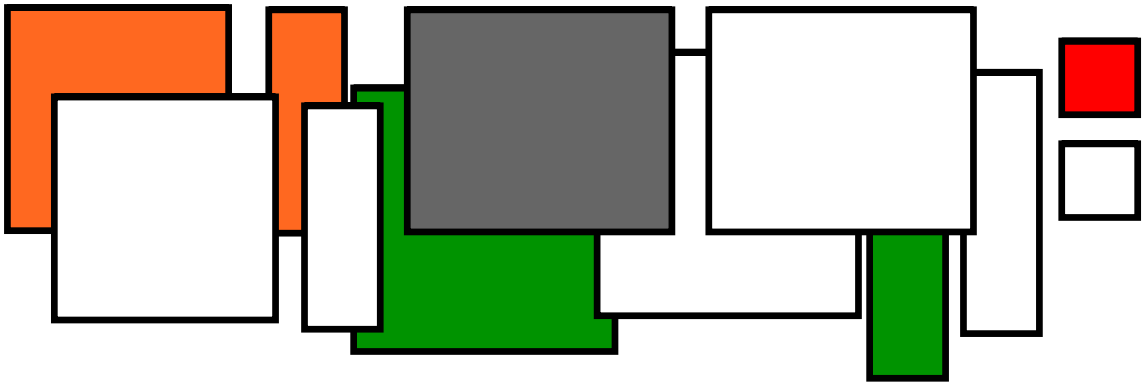




$y = x2 + 6x + 4$



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

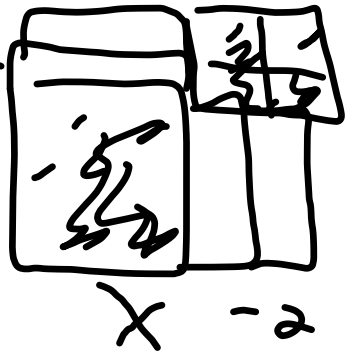


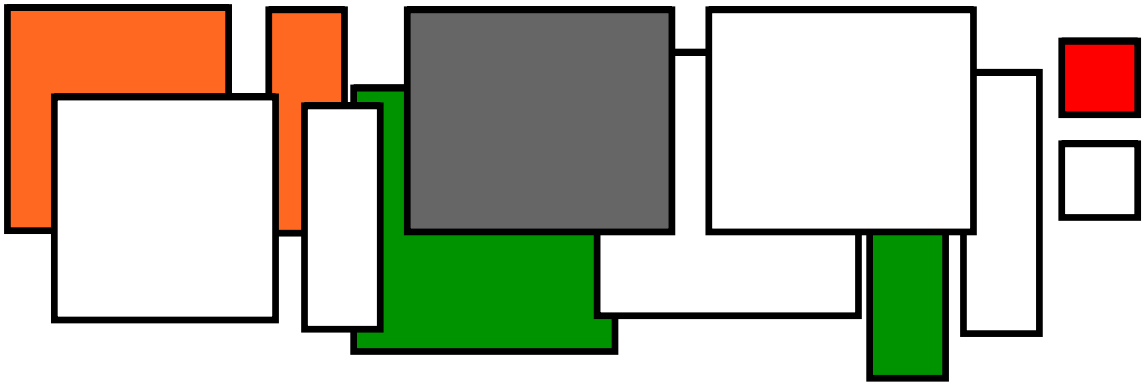
$y = x2 - 4x + 2$

$y - 2 + 4 = x^2 - 4x + 4$

$y - 2 + 4 = x^2 - 4x + 4$

$(y + 2) = (x - 2)^2$





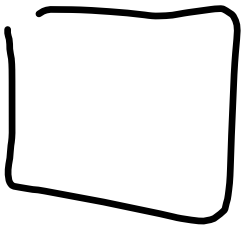
$y = x2 + 5x + 1$

$y - 1 + 6\frac{1}{4} =$

$\frac{25}{4}$

$y + 5\frac{1}{4} = (x + \frac{5}{2})^2$

$x^2 + 5x + \frac{25}{4}$



$y = 2x^2 + 8x + 3$

$y - 3 = 2x^2 + 8x$

$\frac{1}{2}(y-3) = x^2 + 4x$ $+4$ $+4$

$\frac{1}{2}(y-3+8) = (x+2)^2$

$\frac{1}{2}(y+5) = (x+2)^2$