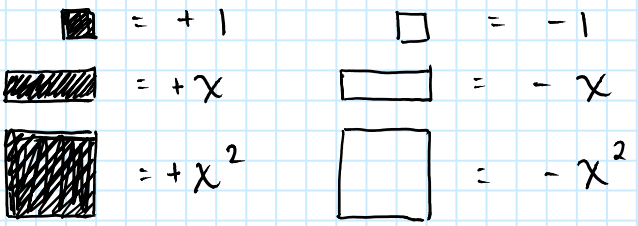
Multiplying a Monomial X Binomial

September 27, 2019 9:56 AM

Two Methods ① Draw algebra tiles



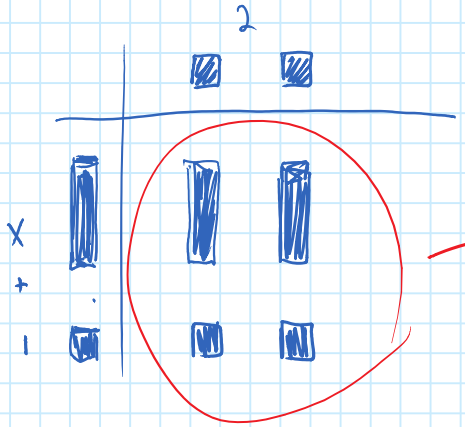
② Solve algebraically (use the distributive law)

Ex. Solve two ways:

① $2(x+1)$

$2 \cdot x + 2 \cdot 1$

$2x + 2$



Answer

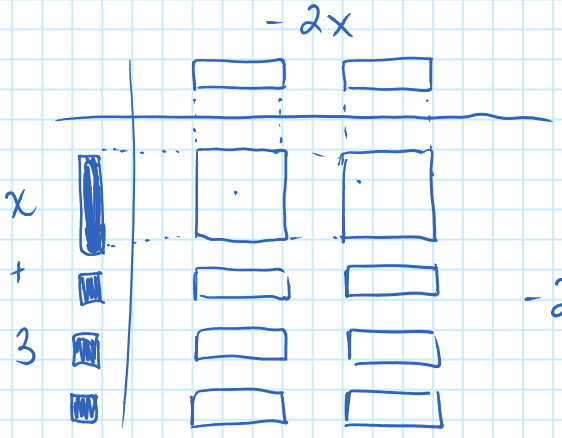
$2x + 2$

② $(-2x)(x+3)$

$-2x \cdot x + -2x \cdot 3$

$-2x^2 + -6x$

$-2x^2 - 6x$



$-2x^2 - 6x$

Use the distributive law, then simplify:

① $(5x^2)(x^2 - 7x)$

$5x^3 \cdot x^2 - 5x^2 \cdot 7x^1$

$5x^4 - 35x^3$

② $(x-5)(3x) \longrightarrow (3x)(x-5)$ Rewrite IF you want

$3x \cdot x - 3x \cdot 5$ $\qquad$ $3x \cdot x - 3x \cdot 5$

$3x^2 - 15x$ $\qquad$ $3x^2 - 15x$

③ $2(x-3) + -3(x+5)$

$2 \cdot x - 2 \cdot 3 + -3 \cdot x + -3 \cdot 5$

$2x - 6 + -3x + -15$

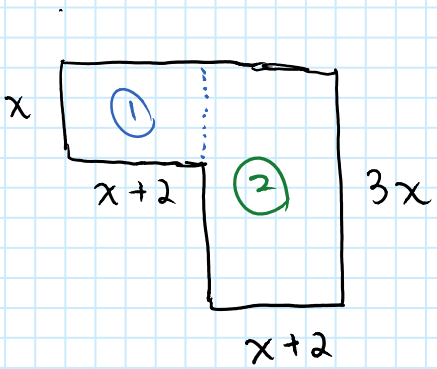
$-1x - 21$

$\boxed{-x - 21}$

✱ order matters!

Highest degree 1ST

Ex. Find the area of this shape:



Area = L x W (Rectangle)

① $A = L \times W$

$A = (x)(x+2)$

$A = x^2 + 2x$

② $A = L \times W$

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

$A = 3x^2 + 6x$

Total

Area = (1) + (2)

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

$= 4x^2 + 8x$