6 - 6
Graphing Inequalities in Two Variables

Ex: From the set

{ (1, 6), (3, 0) (2, 2), (4, 3) },

which ordered pairs are part of the
solution set for 3x + 2y < 12?

$3(1) + 2(6) < 12$

$15 < 12$

$3(3) + 2(0) < 12$

$9 < 12$

$3(2) + 2(2) < 12$

$10 < 12$

$3(4) + 2(3) < 12$

$18 < 12$

half-plane: region of ordered pairs that are solutions
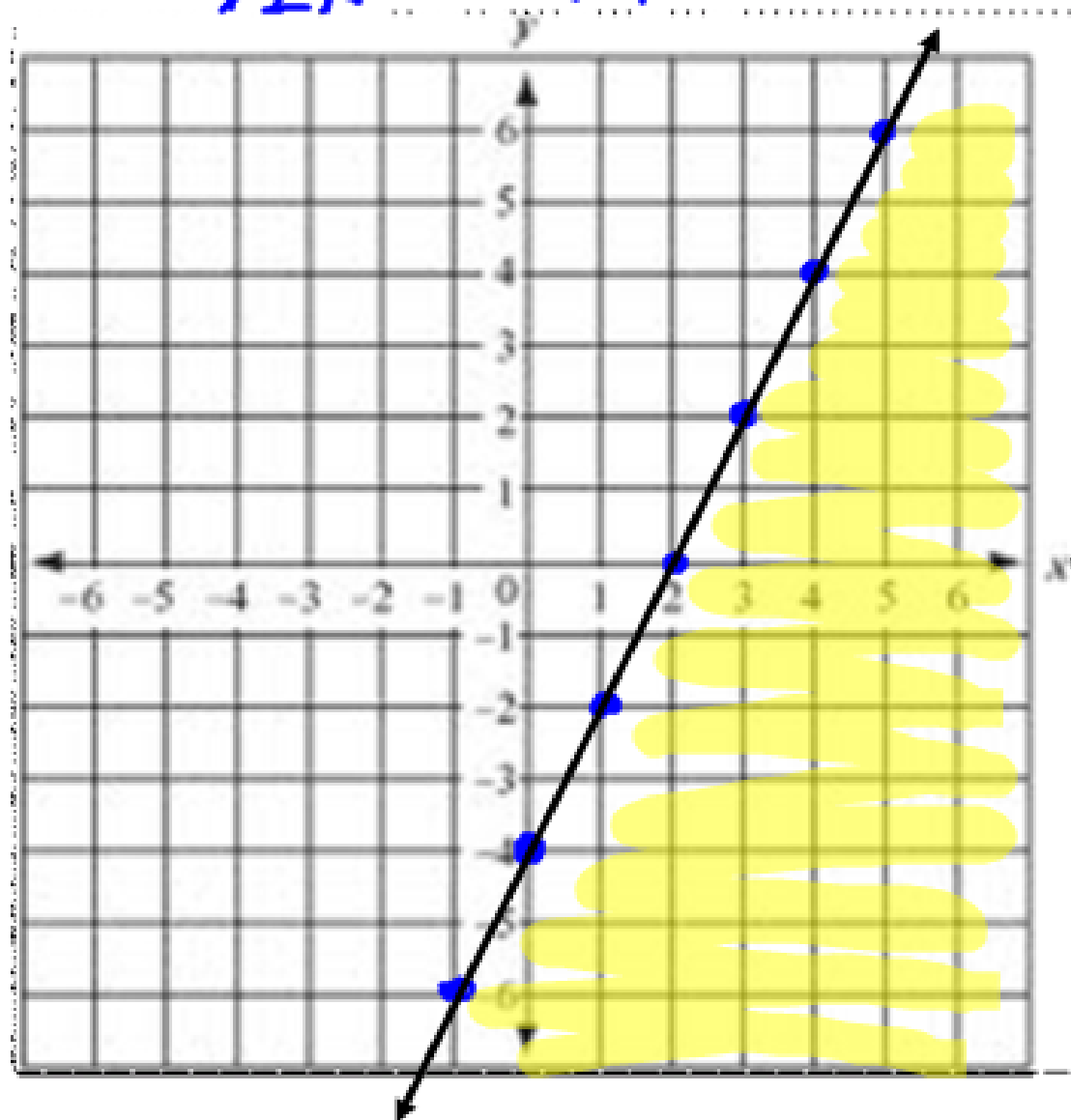
boundary: edge of half-plane (graph of inequality)

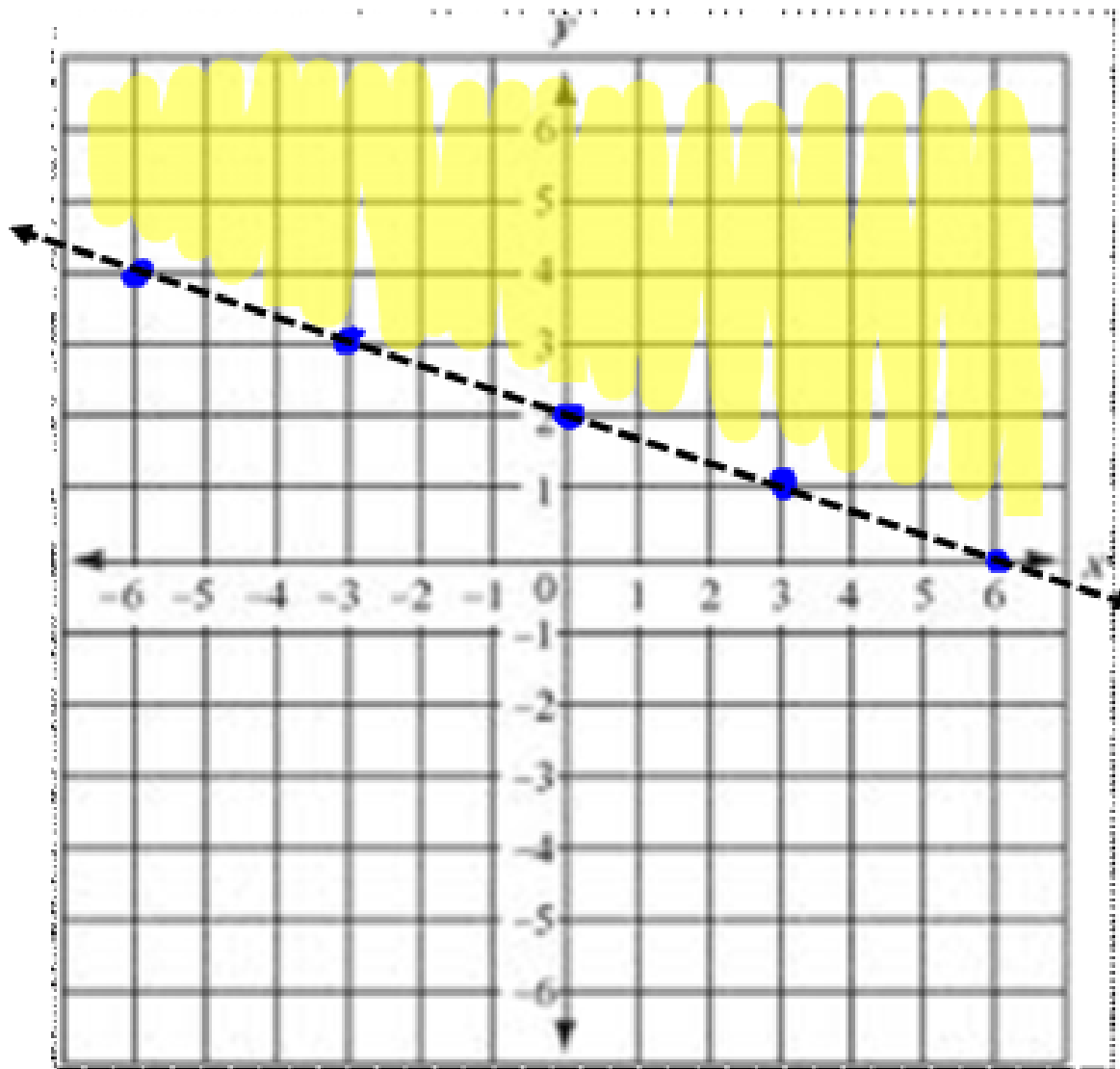When graphing linear inequalities, graph the points just like an equation.

The line is _solid_ for _____ $\leq$ $\geq$ _____ and _dotted_ for _____ $<$ $>$ _____ .

The half-plane is shaded _above_ for _____ $>$ $\geq$ _____ and _below_ for _____ $<$ $\leq$ _____ .

Ex: Graph y - 2x ≤ - 4. $y \leq 2x - 4$

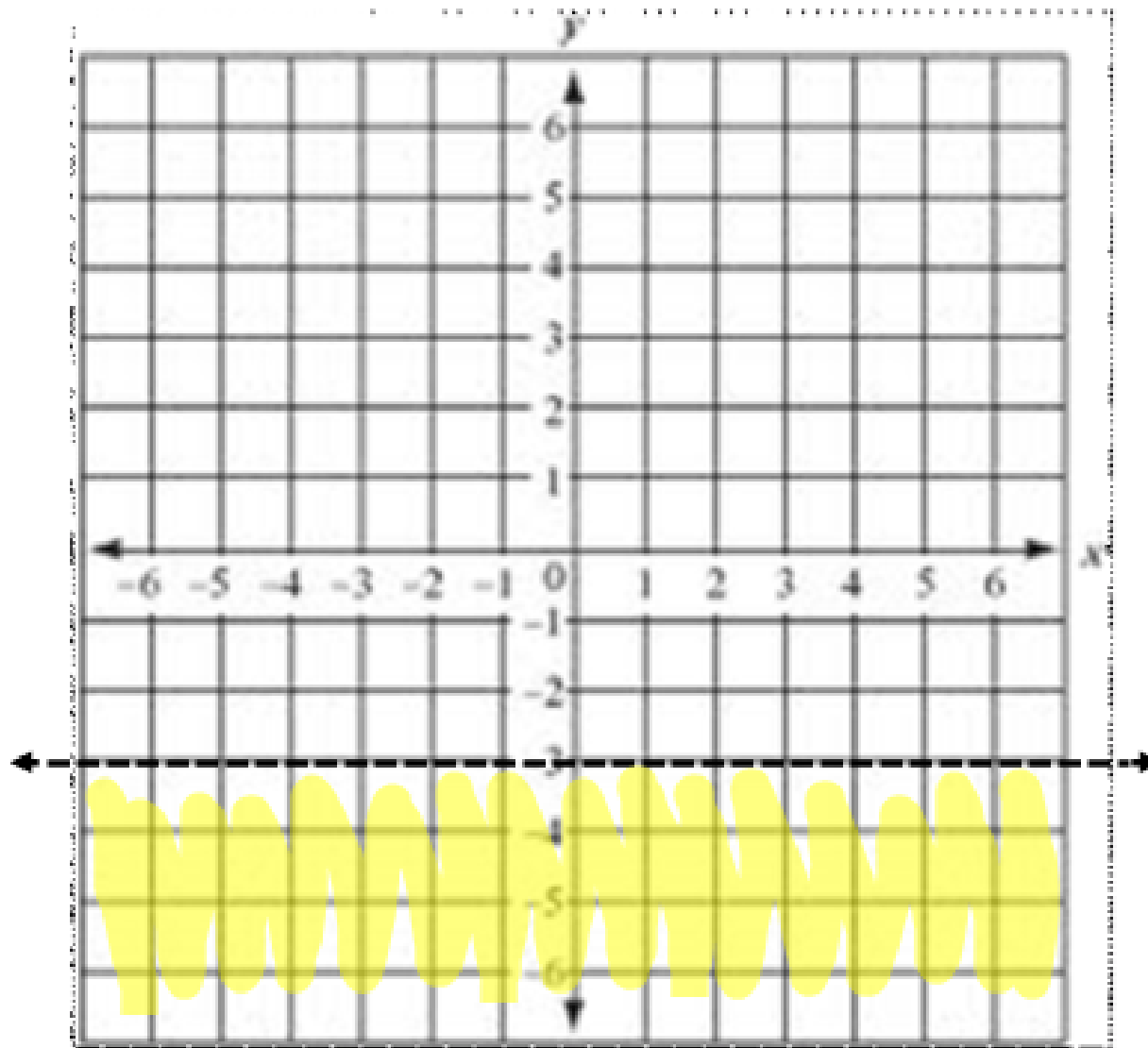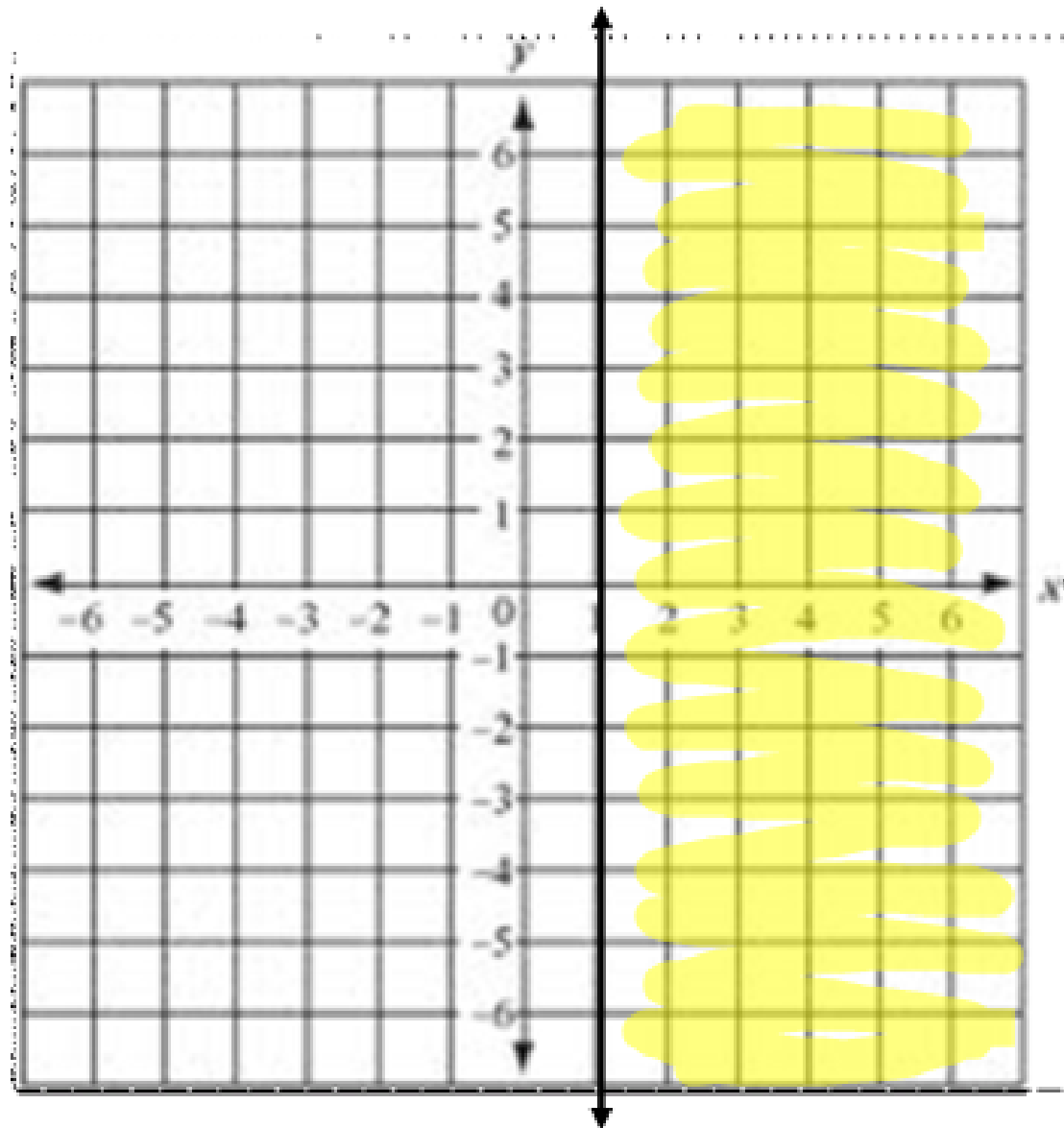$+2x \qquad +2x$

Ex: Graph $y > -\dfrac{1}{3}x + 2.$

Ex: Graph y < - 3.

Ex: Graph x ≥ 1.

Homework:

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