

Algebra 2 3.2

Solve systems of inequalities by graphing

**Algebra 1 Ch. 5

Determine the coordinates of vertices of feasible regions

$y=mx+b$

slope

y-intercept

system of equations

inequality

test point

open interval

closed interval

vertex (p. vertices)

whiteboards

KeyConcept Solving Systems of Inequalities



Step 1 Graph each inequality, shading the correct area.

Step 2 Identify the region that is shaded for all of the inequalities. This is the solution of the system.

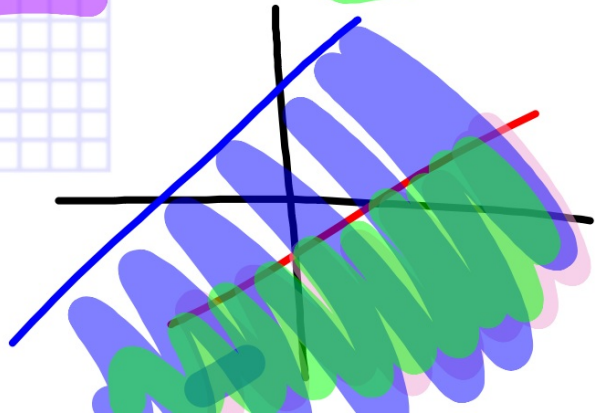
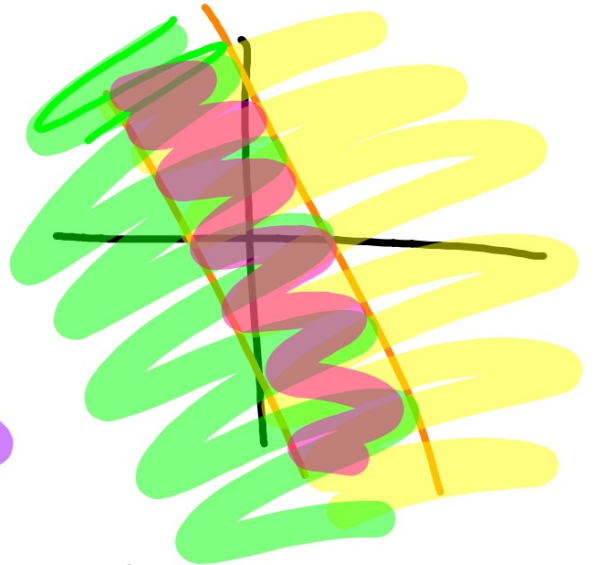
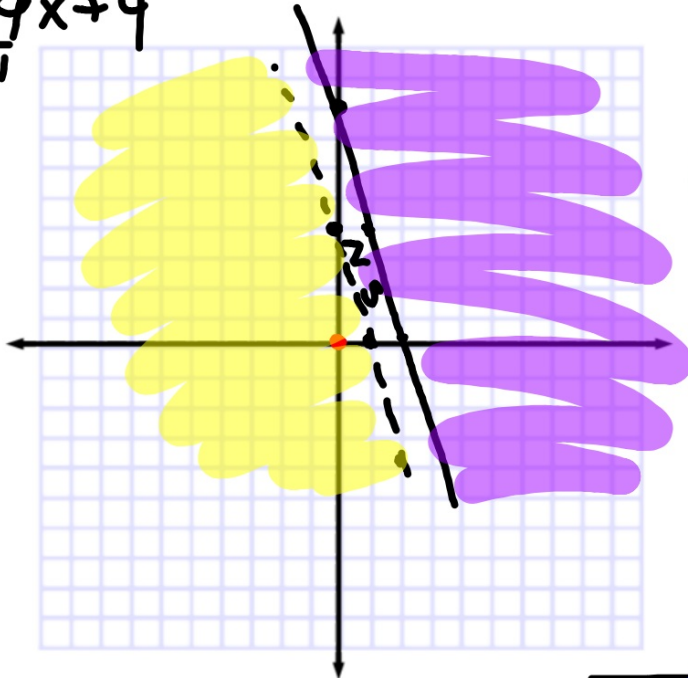
$$0 \geq 8$$

Guided Practice

$$2A. \begin{cases} 0 \geq -4x + 8 \\ 0 < -4x + 4 \end{cases}$$

$$y = -4x + 8$$

$$y = -4x + 4$$

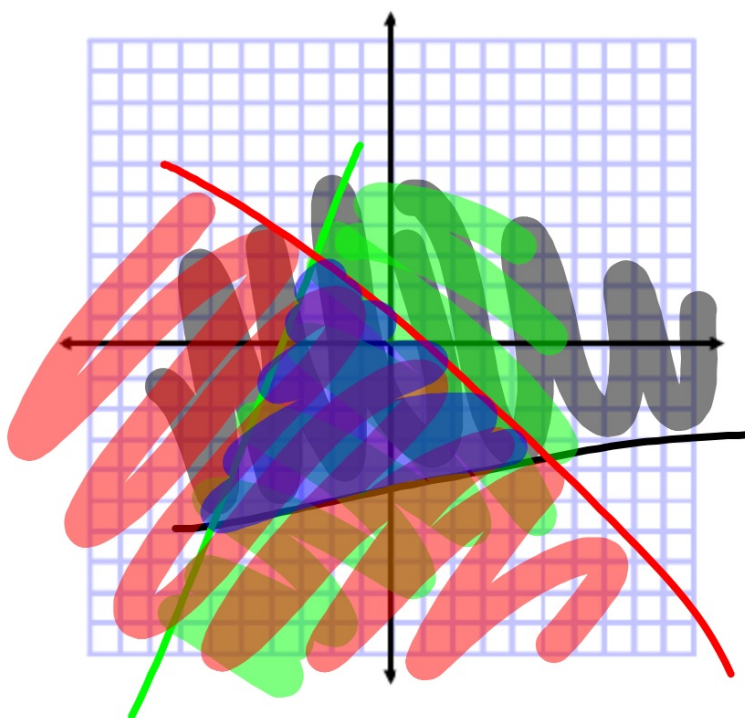




Example 4 Find Vertices

Find the coordinates of the vertices of the triangle formed by $y \geq 2x - 8$, $y \leq -\frac{1}{4}x + 6$, and $4y \geq -15x - 32$.

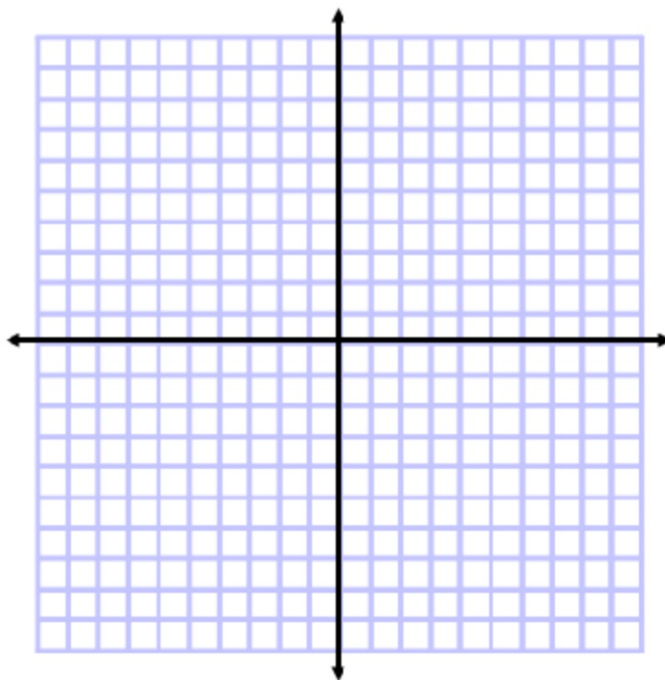
$$\begin{array}{r} 4y = -15x - 32 \\ \hline y = -\frac{15}{4}x - 8 \end{array}$$



GuidedPractice

Find the coordinates of the vertices of inequalities.

4A. $y \geq -3x - 6$
 $2y \geq x - 16$
 $11y + 7x \leq 12$



WB prac

3.2

(both sides = 6)