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 $\leq$ $\geq$ ——

vertex (p. vertices)

whiteboards

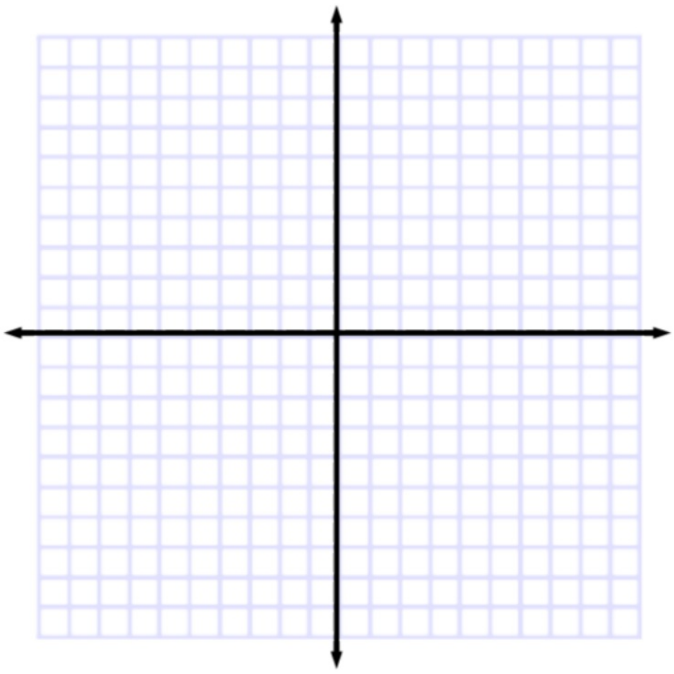
KeyConcept Solving Systems of Inequalities

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.

GuidedPractice

2A. $y \geq -4x + 8$
$y < -4x + 4$

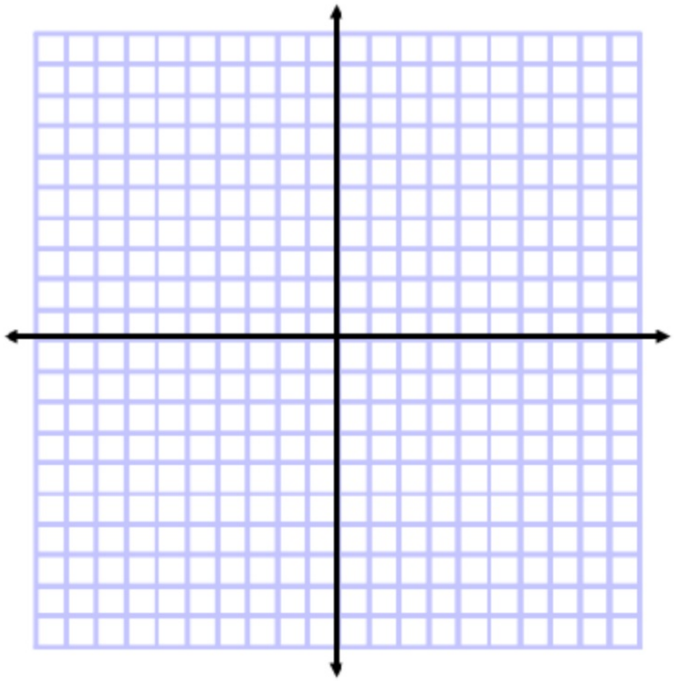


GuidedPractice

3. TRAVEL Mr. and Mrs. Rodriguez are driving across the country with their two children. They plan on driving a maximum of 10 hours each day. Mr. Rodriguez wants to drive at least 4 hours a day but no more than 8 hours a day. Mrs. Rodriguez can drive between 2 and 5 hours per day. Write and graph a system of inequalities that represents this information.

Example 4 Find Vertices

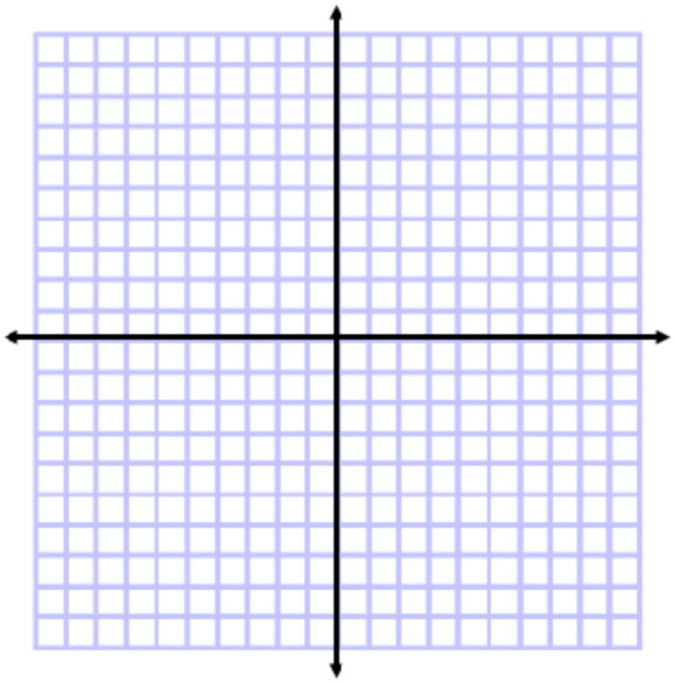
Find the coordinates of the vertices of the triangle formed by $y \geq 2x - 8$, $y \leq -\frac{1}{4}x + 6$, and $4y \geq -15x - 32$.



GuidedPractice

Find the coordinates of the vertices of inequalities.

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



$x = 1^{ST}$ no.

$y = 2^{nd}$ no

$2x - y = 7$

$y = x + 3$

$x + y = 27$

$x - y = 3$

$2x = 30$

$x = 15$

$15 + y = 27$

$-15 \quad -15$

$y = 12$