

6.7 Problems

① Determine if the point $(2, -3)$ is a solution to

Inequality 1: $y > 2x - 10$
 Inequality 2: $y \leq -1x$
 or the system.

② Solve by graphing

$$y > 3x - 2$$

$$2y - x \leq 6$$

③ Solve by graphing

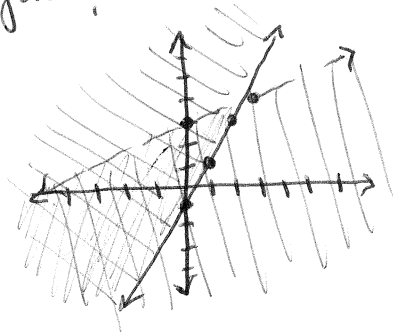
$$y < 2x + 4$$

$$2x - y \leq 4$$

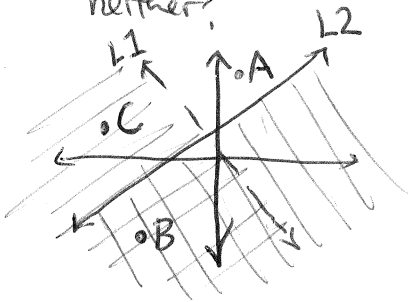
④ $y < 2x + 4$
 $-3x - 2y \geq 6$

⑤ A dog walker earns \$15 an hour. She also earns \$12 an hour for babysitting. She wants to earn at least \$300 next week but can work no more than 30 hours in all. What is the graph showing how many hours she can work at each job? $y = \#$ of hours worked at babysitting and $x = \#$ of hours worked dog walking.

⑥ What are the inequalities that are represented in the system?



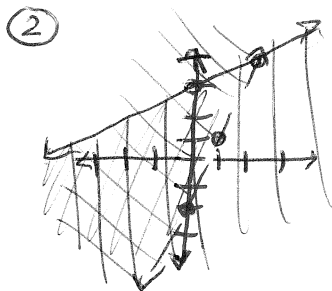
⑦ Are the points A, B, & C solutions to I1, I2 both or neither?



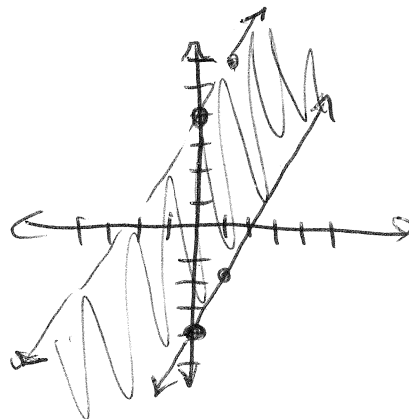
ANSWERS

① I1: $(2, -3)$
 $-3 > 2(2) - 10$
 $-3 > 4 - 10$
 $-3 > -6$ ✓
 I2: $-3 \leq -1(2)$
 $-3 \leq -2$ ✓
 • Solution of system

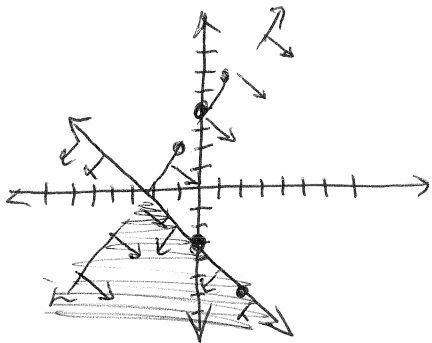
• $y > 3x - 2$ $y \leq \frac{1}{2}x + 3$



③ $y < 2x + 4$
 $y \geq 2x - 4$



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$$\begin{aligned} -3x - 2y &\geq 6 \\ +3x & \quad +3x \\ \hline -2y &\geq 3x + 6 \\ -2 & \quad -2 \quad -2 \\ \hline y &\leq -\frac{3}{2}x - 3 \end{aligned}$$

$$\boxed{y < 2x + 4}$$

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$$\begin{aligned} 15x + 12y &\geq 300 \\ x + y &\leq 30 \end{aligned}$$

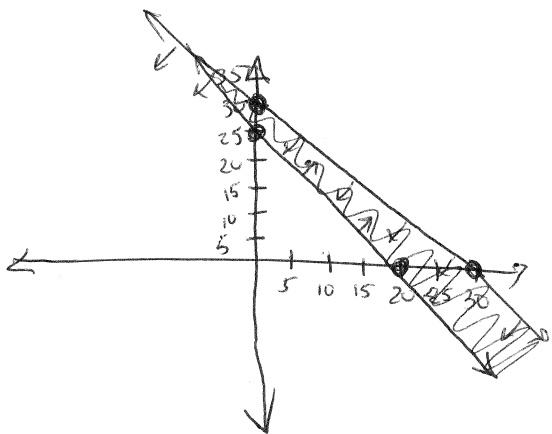


~~15x + 12y ≥ 300~~

x int = 20
y int = 25

6

$$\begin{aligned} y &\geq 2x - 1 \\ y &< \frac{1}{3}x + 3 \end{aligned}$$



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A is not a solution of either
B is a solution to both
C is only a solution to L1