Topic: Graphing Systems of Inequalities

Question: Why does this matter in real life?

111006

Homework Correction

7. $2x + 3y = 5$ **consistent,**
$-6x - 9y = -15$ **dependent**

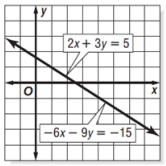
8. $x - 2y = 4$ **consistent,**
$y = x - 2$ **independent**

9. $y = 0.5x$ **inconsistent**
$2y = x + 4$

10. $9x - 5 = 7y$ **consistent,**
$4.5x - 3.5y = 2.5$ **dependent**

11. $\frac{3}{4}x - y = 0$ **consistent, independent**
$\frac{1}{3}y + \frac{1}{2}x = 6$

12. $\frac{2}{3}x = \frac{5}{3}y$ **consistent, dependent**
$2x - 5y = 0$

7.


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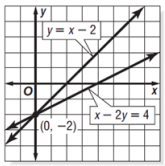

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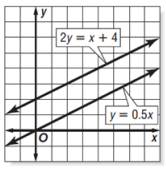

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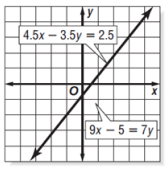

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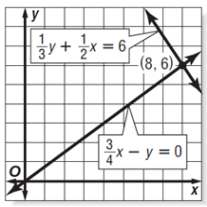

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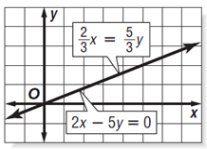


Solve each system of equations by using substitution.

1. $2x + 3y = 10$
$x + 6y = 32$ **(−4, 6)**

2. $x = 4y - 10$
$5x + 3y = -4$ **(−2, 2)**

3. $3x - 4y = -27$
$2x + y = -7$ **(−5, 3)**

Solve each system of equations by using elimination.

4. $7x + y = 9$
$5x - y = 15$ **(2, −5)**

5. $r + 5s = -17$
$2r - 6s = -2$ **(−7, −2)**

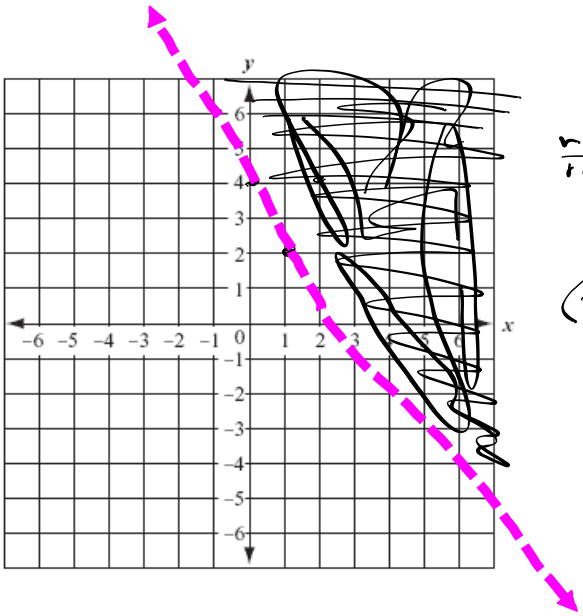
6. $6p + 8q = 20$
$5p - 4q = -26$ **(−2, 4)**

Solve each system of equations by using either substitution or elimination.

7. $2x - 3y = 7$
$3x + 6y = 42$ **(8, 3)**

8. $2a + 5b = -13$
$3a - 4b = 38$ **(6, −5)**

9. $3c + 4d = -1$
$6c - 2d = 3$ $\left(\frac{1}{3}, -\frac{1}{2}\right)$



$y > -2x + 4$

$y = \underset{m}{-2}x + \underset{b}{4}$

$\frac{rise}{run}$ (slope) (y-intercept)

$-2 = \frac{-2}{1}$

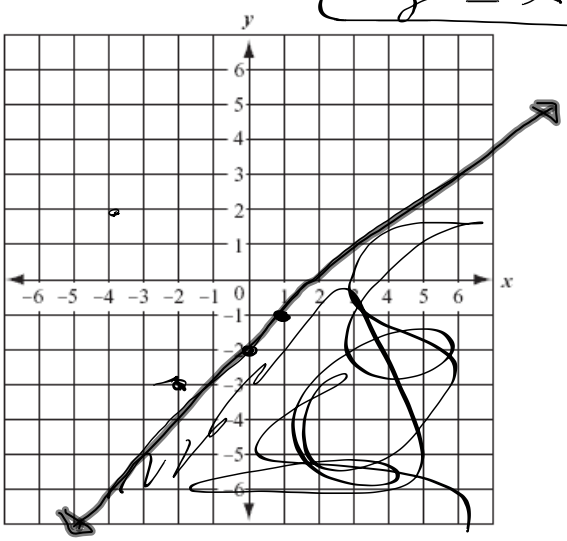
$(2, 4)$ Test Point

$4 > -2(2) + 4$

$4 > -4 + 4$

$4 > 0$

$y \leq x - 2$



$\cancel{(-4, 2)}$

$2 \leq -4 - 2$

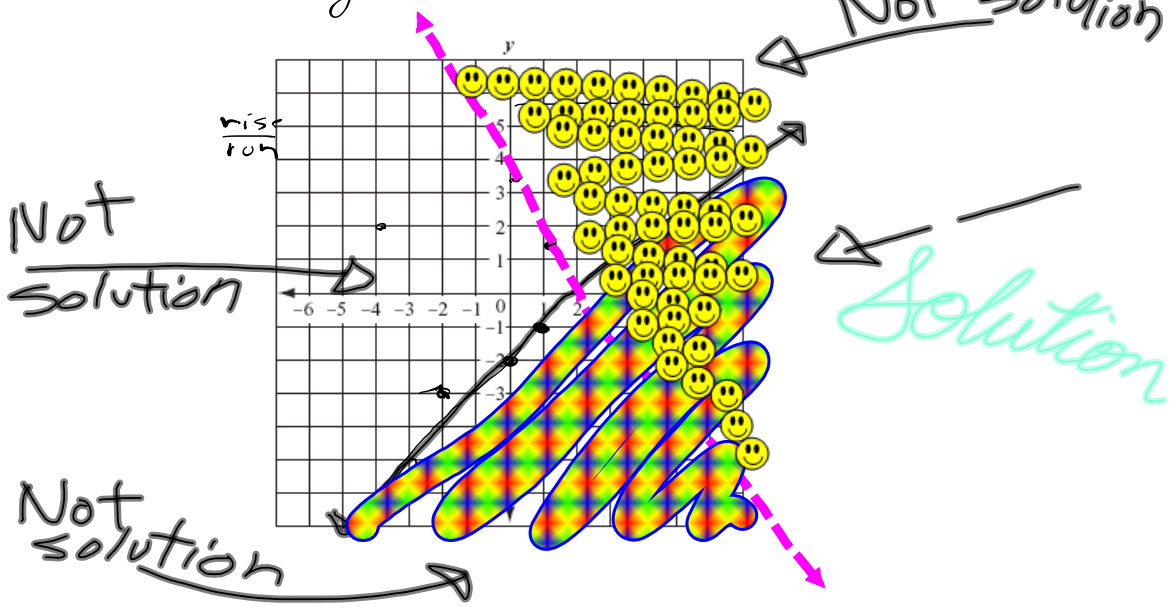
$2 \leq -6$

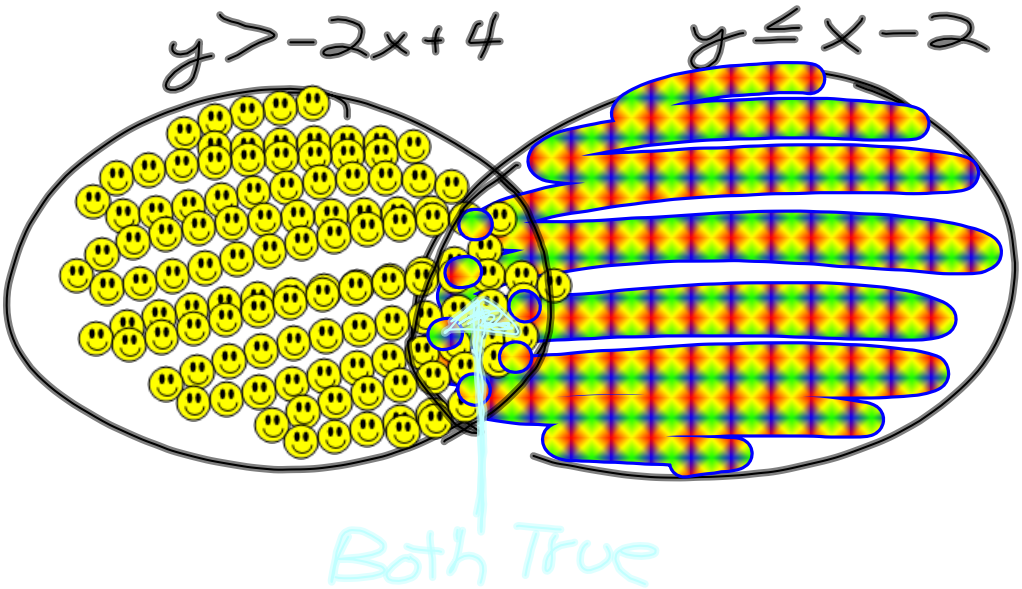
Notes. Graphing a system of inequalities

two or more inequalities with the same variables

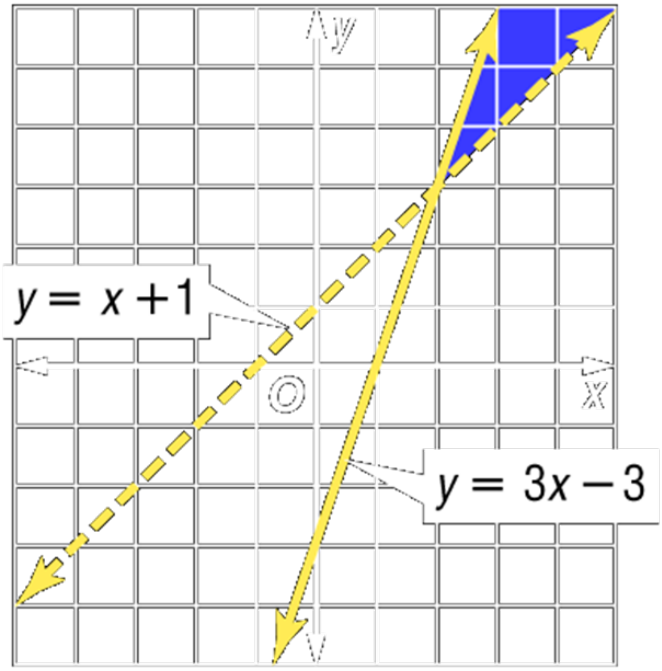
Example. $y > -2x + 4$

$y \leq x - 2$



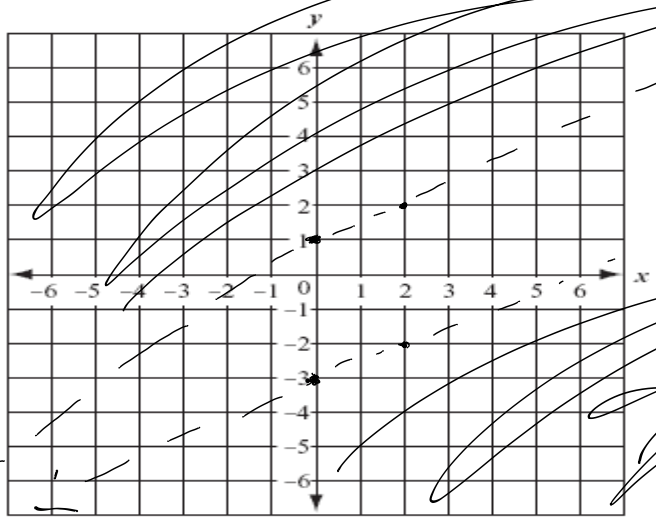


Graph
$y \leq 3x-3$
$y > x+1$



Example #3 Graph the system of inequalities

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



No solution

homework

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summary see #39