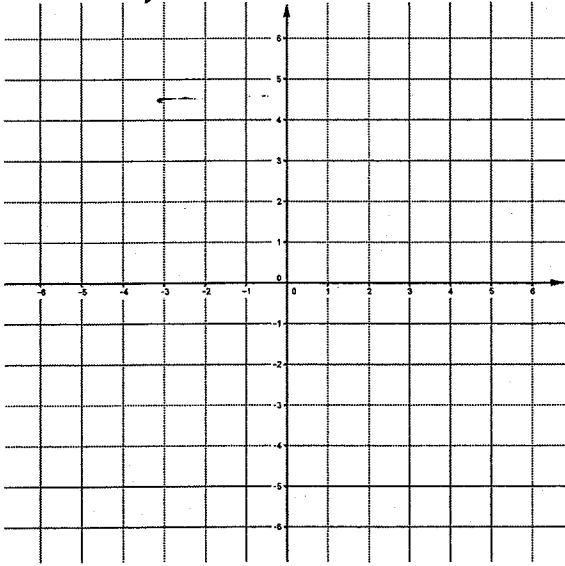


## 2. Warm Up

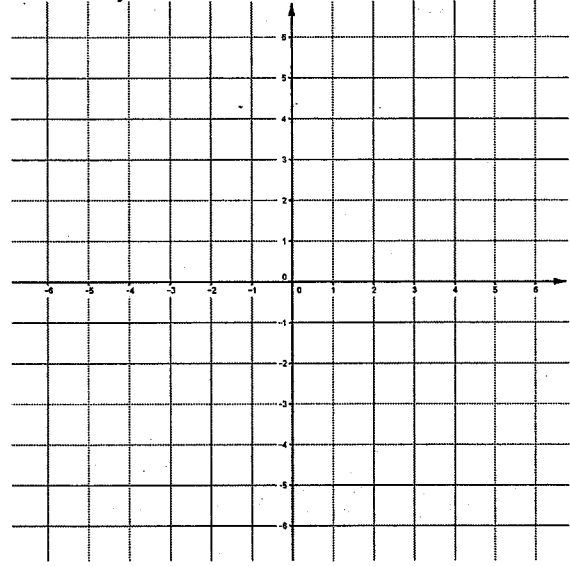
### Systems of inequalities and equations

Graph each inequality on the grid provided

1.  $5x - 3y \leq -15$

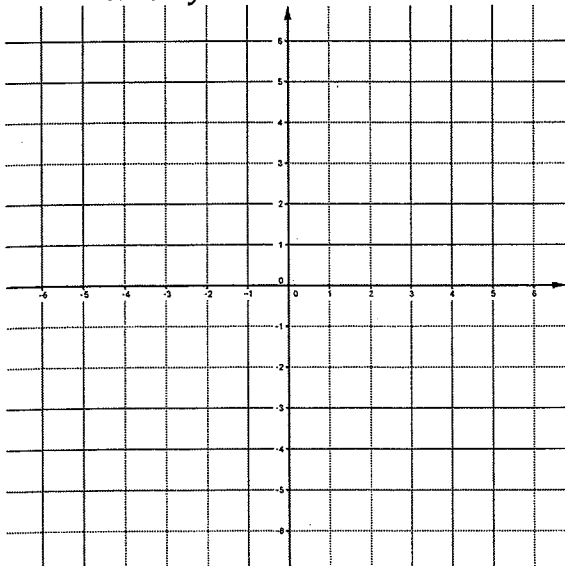


2.  $x - y > 2$



Find the solution to the system of equations by graphing

3.  $2x + 3y = 12$   
 $3x + 2y = 12$



## 2. Get the Point

### *A Develop Understanding Task*

(Adapted from IMP Year 2, Cookies)

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In solving problems like the pet sitters problem, it is helpful to know how to find the coordinates of the point where two lines intersect. As you have seen, this is equivalent to finding the common solution to a system of two linear equations in two variables.

You have probably done this already using either guess-and-check or graphing. Your goal in this activity is to develop an algebraic method, by working with the equations of the two straight lines.

Your written report on this activity should include two things.

- Solutions to questions 1a through 1e
- The written directions your group develops for Question 2

1. For each of these pairs of equations, find the point of intersection of their graphs by a method other than graphing or guess-and-check. When you think you have each solution, check it by graphing or by substituting the values into the pair of equations.

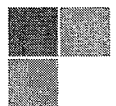
a.  $y = 3x$  and  $y = 2x + 5$

b.  $y = 4x + 5$  and  $y = 3x - 7$

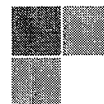
c.  $2x + 3y = 13$  and  $y = 4x + 1$

d.  $7x - 3y = 31$  and  $y - 5 = 3x$

e.  $4x - 3y = -2$  and  $2y + 3 = 3x$



2. As a group, develop and write down general directions for finding the coordinates of the point of intersection of two equations for straight lines using an algebraic method, without guessing or graphing. In developing these instructions, you may want to make up some more examples like those in Question 1, either to get ideas or to test whether your instructions work. Make your instructions easy to follow so someone else could use them to "get the point."

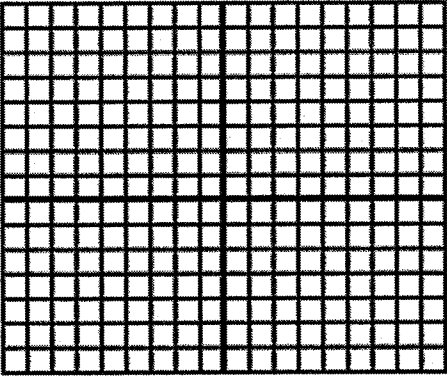


## 2. Homework

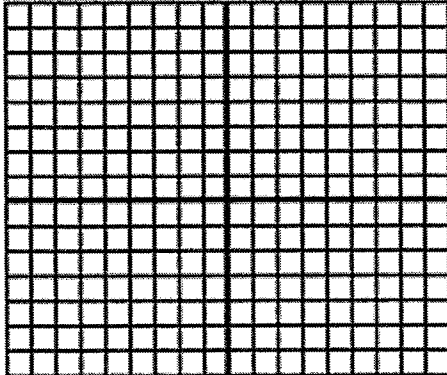
### GO: Systems of Linear Equations Homework Exercises

Directions: Solve each system of linear equations using different strategies.

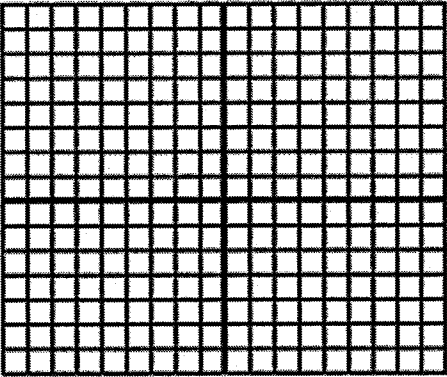
1.

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$y = x - 3$ and $y = 3x + 5$																									
Table	Graph																								
<table style="display: inline-table; border-collapse: collapse; margin-right: 20px;"> <thead> <tr><th style="padding: 5px;">x</th><th style="padding: 5px;">y</th></tr> </thead> <tbody> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> </tbody> </table> <table style="display: inline-table; border-collapse: collapse;"> <thead> <tr><th style="padding: 5px;">x</th><th style="padding: 5px;">y</th></tr> </thead> <tbody> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> </tbody> </table>	x	y											x	y											
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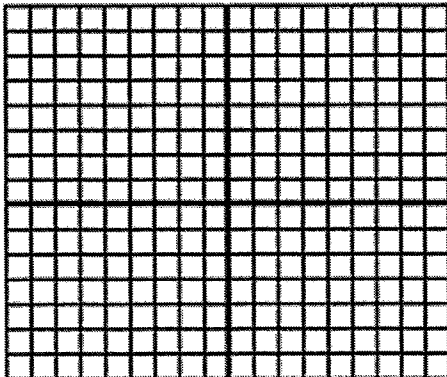
2.

System	Substitution																								
$y = 5x$ and $2x + y = 14$																									
Table	Graph																								
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3.

System	Substitution																												
$y = 7x - 12$ and $4x - 2y = 34$																													
Table	Graph																												
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4.

System	Substitution																												
$12x - 7y = 20$ and $3x + 2y = 6$																													
Table	Graph																												
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