Name _____ Date _____

Word Problems That Require Equations or Inequalities - Step-by-Step Lesson

Write a system of equations, graph them, and find the solution.

1. John wants to take part in a dance class. He has two choices. Dance academy A costs $5 per month and $200 in registration fees. Dance academy B costs $3 per month and $300 in registration fees. Find the number of months it would require for John to attend each dance academy; where the costs would be the same to him.

What would the total cost be?

Explanation:

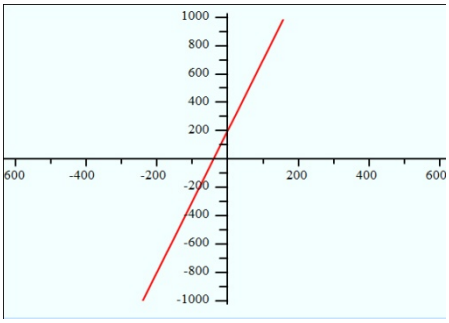
The solution would be to find where these two lines intersect.

Let's graph the first equation.

$y = 5x + 200$

The y-intercept is 200.

The slope is 5. That is the same as 5/1. Move up 5 and to the right 1. Plot that point and connect a line to those points.



Time to graph the second equation.

$y = 3x + 300$

The y-intercept is 300. Plot the point (0, 300).

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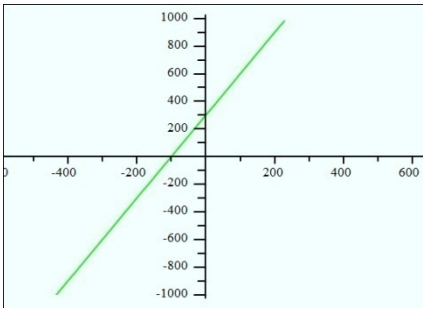
The slope is 3. That is the same as 3/1. Move up 3 and to the right 1. Plot that point and connect a line to those points.



Finally, identify the point of intersection.

The lines intersect at (50, 450)

The dance academy charges $50 admission, the total fees at each venue would be $450.

Start by writing a system of equations. Let x = admission and y = total fees.

y = 5x + 200

y = 3x + 300