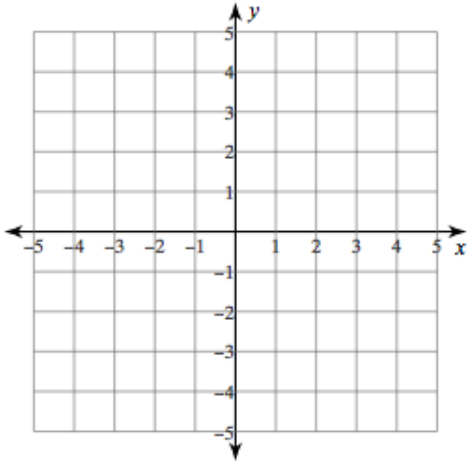


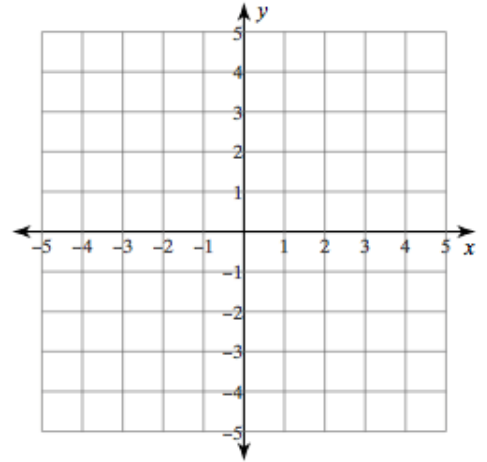
Solve by Graphing

Solve each system of linear equations by graphing. Write the equations in slope-intercept form. If system has a solution, then name at least one ordered pair (x, y) . If there is no solution, state why.

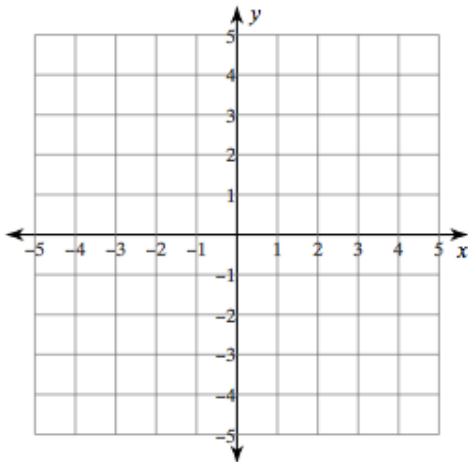
1) $y = -2x + 4$
 $y = \frac{1}{3}x - 3$



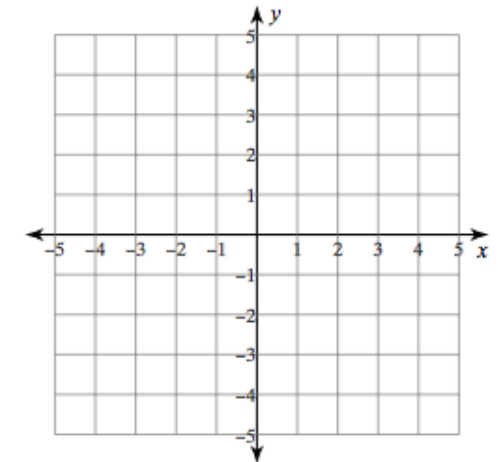
2) $y = \frac{1}{2}x + 2$
 $y = \frac{1}{2}x - 2$



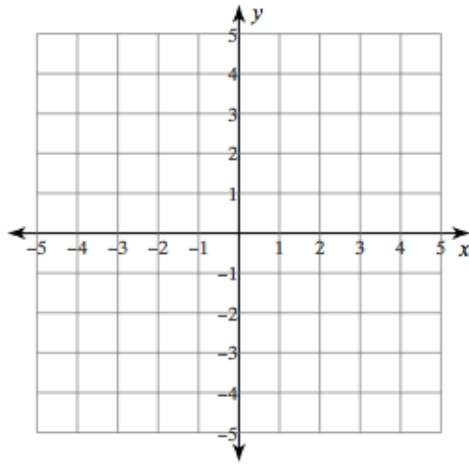
3) $0 = -3 + y - 2x$
 $y + 5x + 4 = 0$



4) $-y - 4 = -x$
 $0 = -4 - y + x$



5) $-12 + 4y + 10x = 0$
 $0 = 2y + 4$



Break-Even Points

In the business world, the “break-even point” is the point at which income equals expenses. Solve a system of equations to find the “break-even point” for a business.

- 6) Suppose a club publishes a newsletter. Expenses are \$.50 for printing and mailing each copy, plus \$300 total for research and writing. The price of the newsletter is \$2.00 per copy. How many copies of the newsletter must the club sell to break-even?

Define the variables:

$x =$ _____
 $y =$ _____

Write an equation representing the expense/cost of publishing the newsletter: _____

Write an equation representing the money earned/income from selling the newsletter: _____

Set the two equations equal to each other to find the “break-even point”.

- 7) Suppose another club publishes a newsletter. Expenses are \$.80 for printing and mailing each copy, plus \$120 total for research and writing. The newsletter costs \$1 per copy. How many copies of the newsletter must the club sell to break-even?

Define the variables:

$x =$ _____
 $y =$ _____

Write an equation representing the expense/cost of publishing the newsletter: _____

Write an equation representing the money earned/income from selling the newsletter: _____

Set the two equations equal to each other to find the “break-even point”.