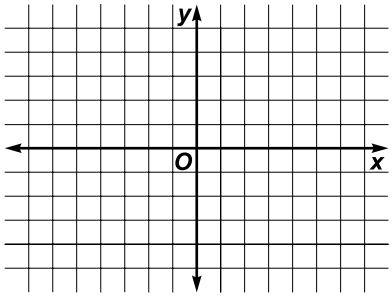
10-8

Practice

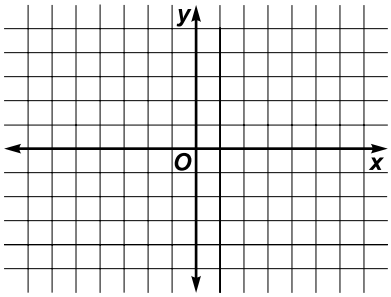
Systems of Second-Degree Equations and Inequalities

Solve each system of equations algebraically. Round to the nearest tenth. Check the solutions by graphing each system.

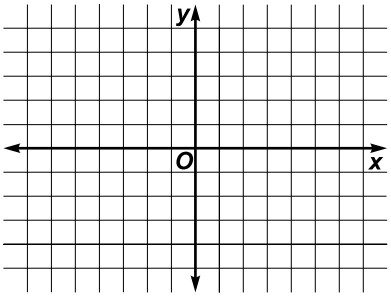
1. $2x - y = 8$
$x^2 + y^2 = 9$



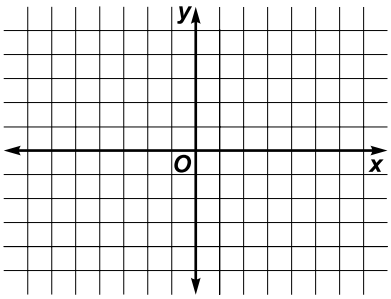
2. $x^2 - y^2 = 4$
$y = 1$



3. $xy = 4$
$x^2 = y^2 + 1$

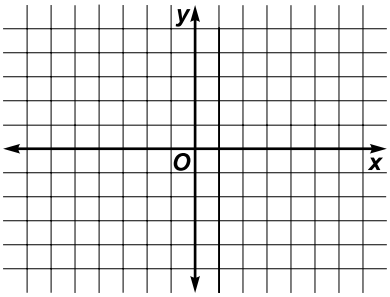


4. $x^2 + y^2 = 4$
$4x^2 + 9y^2 = 36$

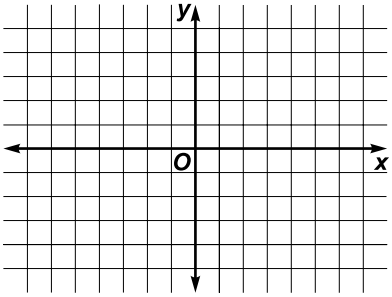


Graph each system of inequalities.

5. $3 \geq (y - 1)^2 + 2x$
$y \geq -3x + 1$



6. $(x - 1)^2 + (y - 2)^2 < 9$
$4(y + 1)^2 + x^2 \leq 16$



7. ***Sales*** Vincent's Pizzeria reduced prices for large specialty pizzas by \$5 for 1 week in March. In the previous week, sales for large specialty pizzas totaled \$400. During the sale week, the number of large pizzas sold increased by 20 and total sales amounted to \$600. Write a system of second-degree equations to model this situation. Find the regular price and the sale price of large specialty pizzas.