Algebra 2 Name_____ ID: 1

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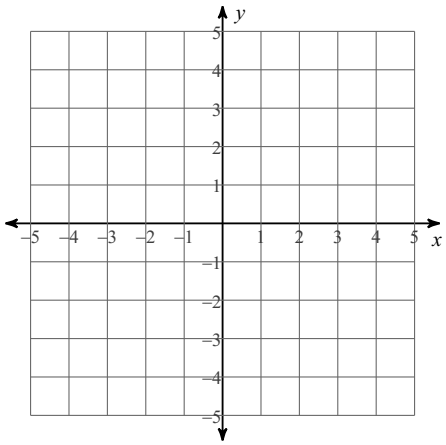
2x2 Systems of Equations and Inequalities

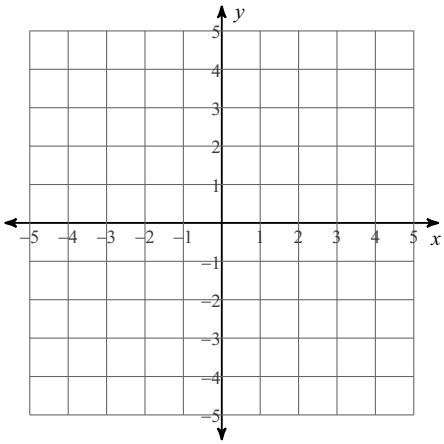
Date_____ Period____

Solve each system by graphing.

1) $y = 2 - x$
$0 = 2x - 8$



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



Solve each system by substitution.

3) $x + 6y = -8$
$3x + 3y = -24$

4) $3x + y = 11$
$6x - 2y = 2$

Solve each system by elimination.

5) $10x - 6y = 14$
$-4x + 6y = -2$

6) $x + 2y = 5$
$x - 5y = 12$

7) $-3x - 6y = -30$
$2x - 12y = 20$

8) $-18x + 2y = -4$
$-9x + 4y = 19$

9) $3x + 4y = 4$
$-12x - 16y = 12$

10) $4x - 4y = -4$
$-x + y = 1$

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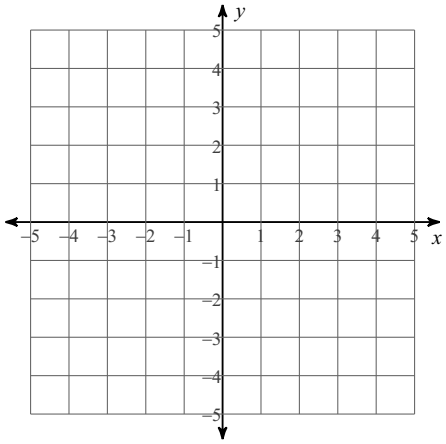
Sketch the solution to each system of inequalities.

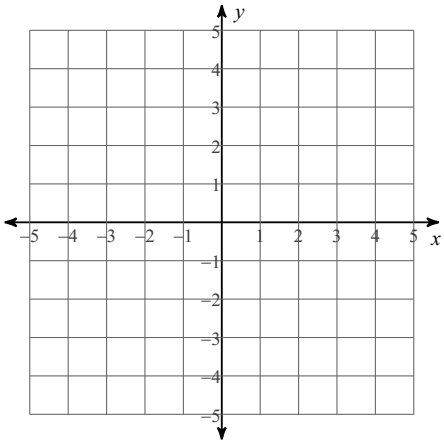
11) $y < \frac{4}{3}x - 1$

$y \leq 3$



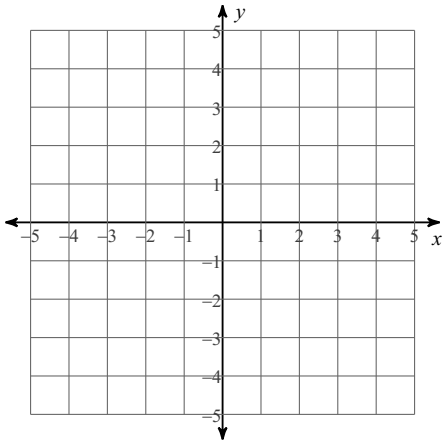
12) $y \leq -\frac{3}{2}x - 2$

$y \leq \frac{1}{2}x + 2$



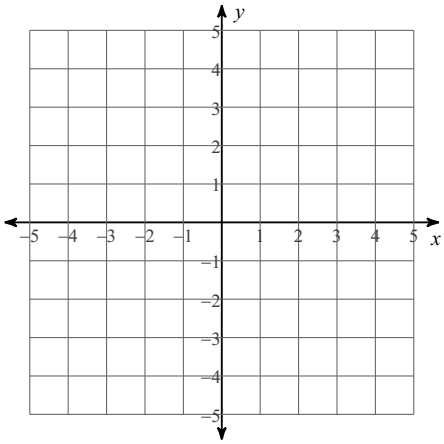
13) $2x - 3y \leq 9$

$x + y < 2$



14) $2x - y \geq -1$

$x + y \geq -2$



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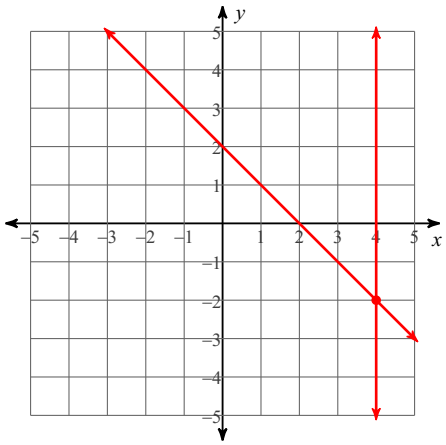
2x2 Systems of Equations and Inequalities

Date_____ Period____

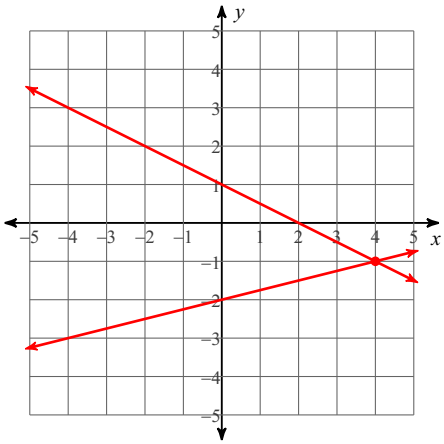
Solve each system by graphing.

1) $y = 2 - x$
$0 = 2x - 8$



$(4, -2)$

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



$(4, -1)$

Solve each system by substitution.

3) $x + 6y = -8$
$3x + 3y = -24$
$(-8, 0)$

4) $3x + y = 11$
$6x - 2y = 2$
$(2, 5)$

Solve each system by elimination.

5) $10x - 6y = 14$
$-4x + 6y = -2$
$(2, 1)$

6) $x + 2y = 5$
$x - 5y = 12$
$(7, -1)$

7) $-3x - 6y = -30$
$2x - 12y = 20$
$(10, 0)$

8) $-18x + 2y = -4$
$-9x + 4y = 19$
$(1, 7)$

9) $3x + 4y = 4$
$-12x - 16y = 12$
No solution

10) $4x - 4y = -4$
$-x + y = 1$
Infinite number of solutions

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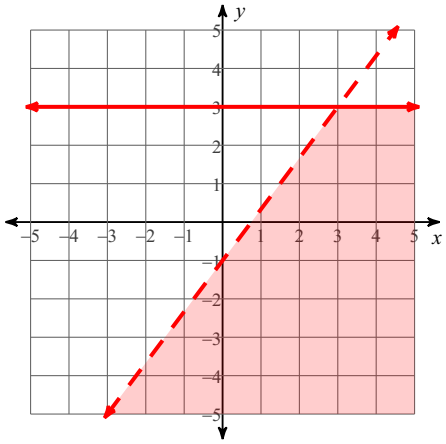
Sketch the solution to each system of inequalities.

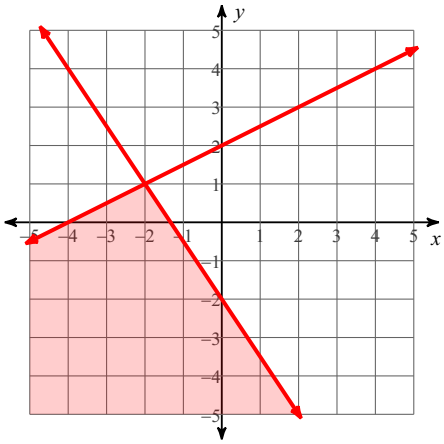
11) $y < \frac{4}{3}x - 1$

$y \le 3$



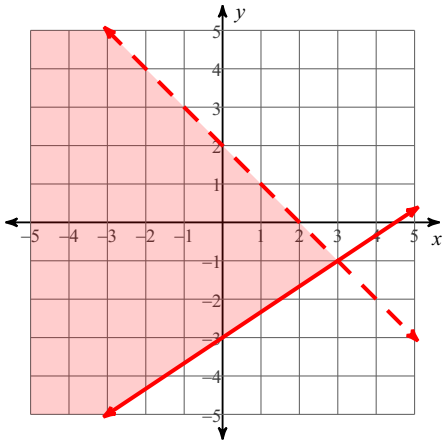
12) $y \le -\frac{3}{2}x - 2$

$y \le \frac{1}{2}x + 2$



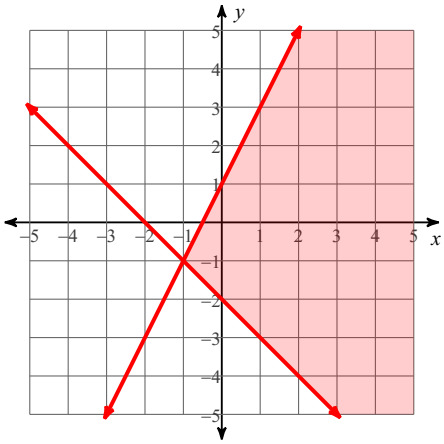
13) $2x - 3y \le 9$

$x + y < 2$



14) $2x - y \ge -1$

$x + y \ge -2$



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