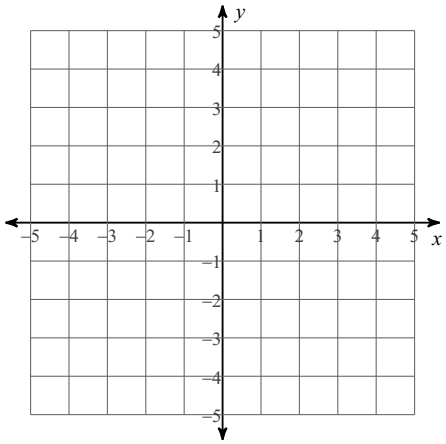
Warm-Ups & Class Notes - Systems by Substitution

Date_____

WARM-UPS - Solve each system by graphing.

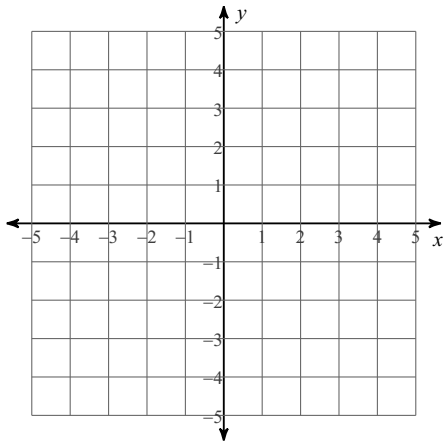
1) $y = -\frac{1}{2}x + 4$

$y = x - 2$



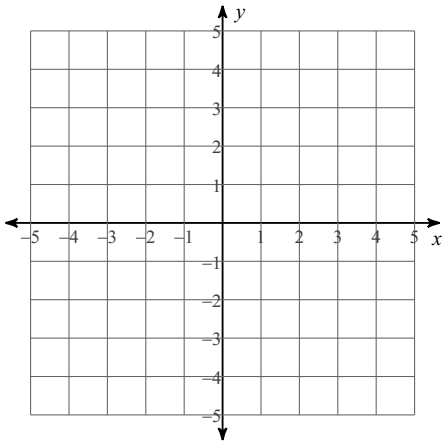
2) $2x - y \leq 3$

$y < -1$



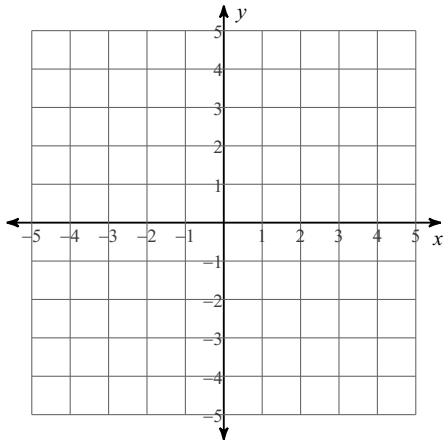
3) $y = \frac{5}{3}x - 1$

$y = \frac{5}{3}x + 3$



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

$x + 2y = 6$



CLASS EXAMPLES: Solve each system by substitution.

5) $y = 4x$
$y = x + 3$

6) $y = -5x + 6$
$y = 1$

7) $y = 2x + 1$
$4x + 6y = 22$

8) $-10x - 2y = -7$
$y = -5x - 6$

9) $12x - 2y = 6$
$y = 6x - 3$

10) $y = -3x + 1$
$-4x - 6y = 22$

Set up a system of equations that would help to solve the problem. (Students do not have to solve the system at this time.)

11) Joe's school is selling tickets to a fall musical. On the first day of ticket sales the school sold 7 adult tickets and 6 student tickets for a total of $129. The school took in $222 on the second day by selling 10 adult tickets and 12 student tickets. Find the price of an adult ticket and the price of a student ticket.

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WARM-UPS - Solve each system by graphing.

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

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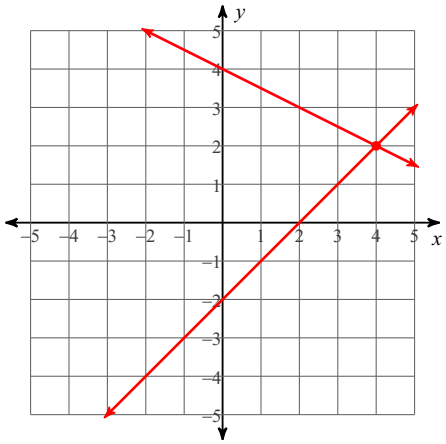
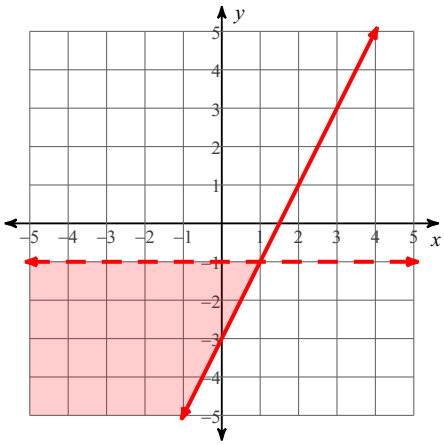


(4, 2)

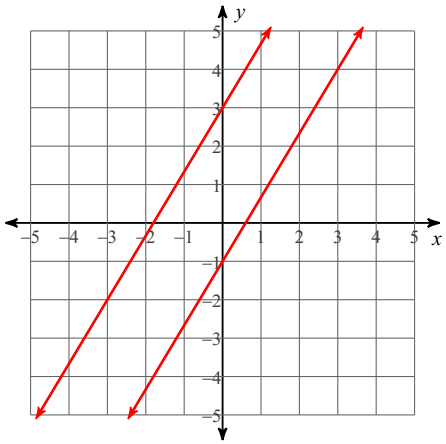
2) $2x - y \leq 3$

$y < -1$



3) $y = \frac{5}{3}x - 1$

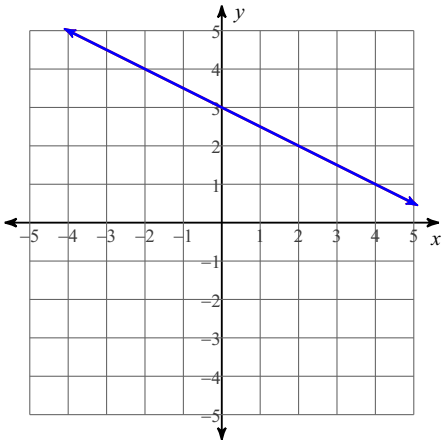
$y = \frac{5}{3}x + 3$



No solution

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

$x + 2y = 6$



CLASS EXAMPLES: Solve each system by substitution.

5) $y = 4x$
$y = x + 3$

$(1, 4)$

6) $y = -5x + 6$
$y = 1$

$(1, 1)$

7) $y = 2x + 1$
$4x + 6y = 22$

$(1, 3)$

8) $-10x - 2y = -7$
$y = -5x - 6$

No solution

9) $12x - 2y = 6$
$y = 6x - 3$

Infinite number of solutions

10) $y = -3x + 1$
$-4x - 6y = 22$

$(2, -5)$

Set up a system of equations that would help to solve the problem. (Students do not have to solve the system at this time.)

11) Joe's school is selling tickets to a fall musical. On the first day of ticket sales the school sold 7 adult tickets and 6 student tickets for a total of $129. The school took in $222 on the second day by selling 10 adult tickets and 12 student tickets. Find the price of an adult ticket and the price of a student ticket.

$7a + 6s = 129$
$10a + 12s = 222$
adult ticket: $9, student ticket: $11