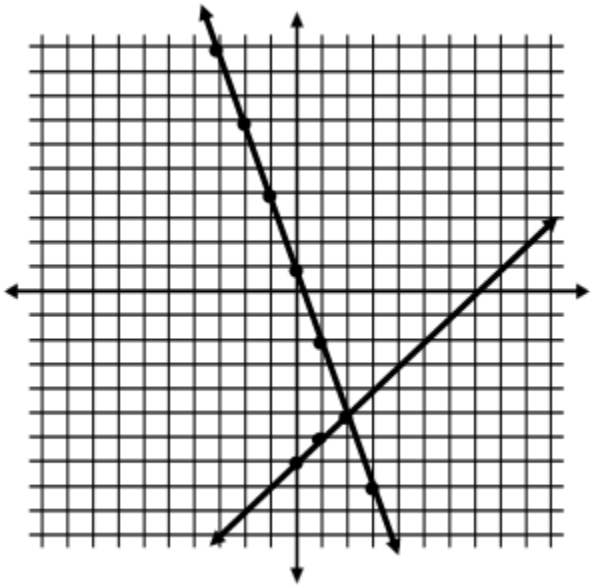
Name:_____**Date:**_____**Per:**_____

Final Exam Review
Systems of Equations and Exponents

Solve the following systems of equation by graphing. Be sure to state the solution.

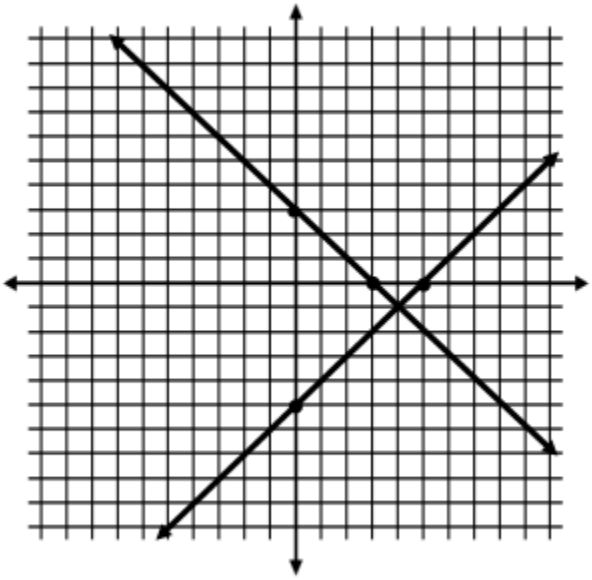
1. $y = -3x + 1$
$y = x - 7$

(2, −5)



2. $x + y = 3$
$x - y = 5$

(4, −1)



Solve the following systems of equations by substitution.

3. $y = 2x - 7$
$x + 2y = 1$

(3, −1)

4. $x + 4y = 9$
$x - y = 4$

(5, 1)

Solve the following systems of equations by eliminating a variable.

5. $x + 2y = 13$
$x - 2y = -7$

(3, 5)

6. $4y = 11 - 3x$
$3x + 2y = -5$

(−7, 8)

7. $x + 6y = 28$
$2x - 3y = -19$

(−2, 5)

8. $3x - 5y = -7$
$-4x + 7y = 8$

(−9, −4)

9. $-x + y = 8$
$x - y = -8$

any number

10. Without solving the system tell whether it has *one solution*¸*no solution*¸or *infinitely many solutions.*

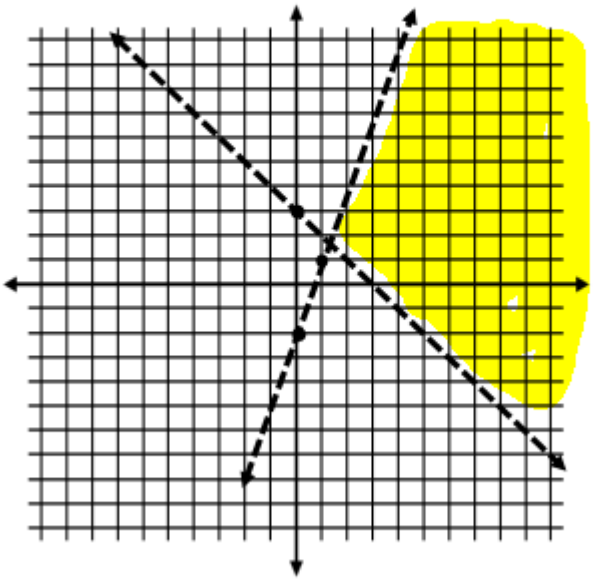
$2y + 6 = 4x$
$4x + 2y = 10$

Put both in slope-intercept form: $y = 2x - 3$
$y = -2x + 5$

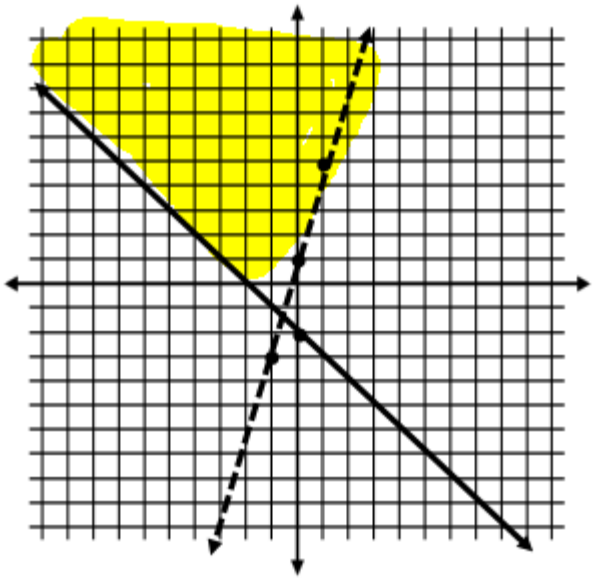
Slopes are different so they are intersecting lines, there is one solution

Graphing the following systems of linear inequalities.

11. $y < x + 3$
$y > -3x - 2$



12. $y \leq -x - 2$
$y > 4x + 1$



Simplify the following expressions.

13. $\left(\frac{2m^5n}{4m^2}\right)^2\left(\frac{mn^4}{5n}\right)^2$

$\frac{m^8n^8}{100}$

14. $\frac{2s^3t^3}{st^2} \cdot \frac{(3st)^3}{s^2t}$

$54s^3t^3$

15. $\frac{(3x)^{-3}y^4}{x^2y^{-6}}$

$\frac{y^{10}}{27x^5}$

16. $\frac{12x^8y^{-7}}{(4x^{-2}y^{-6})^2}$

$\frac{3x^{12}y^5}{4}$

17. $(6x^{-2}y^3)^{-3}$

$\frac{x^6}{216y^9}$

18. $(-15fg^2)^0$

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