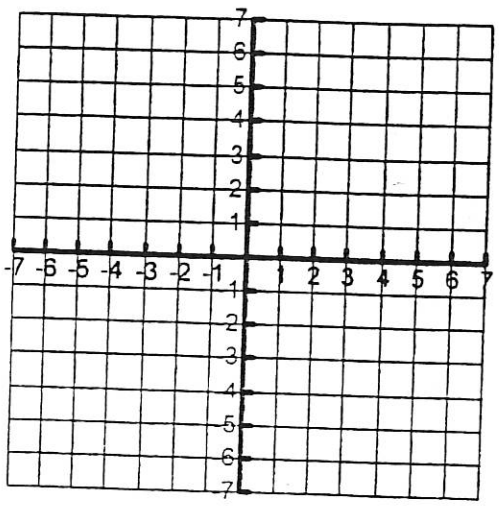
Algebra I - Chapter 7 Review Name:_____

Show ALL work to receive credit!

1) Use the GRAPHING method to solve the system of equations

$y = 3x + 4$

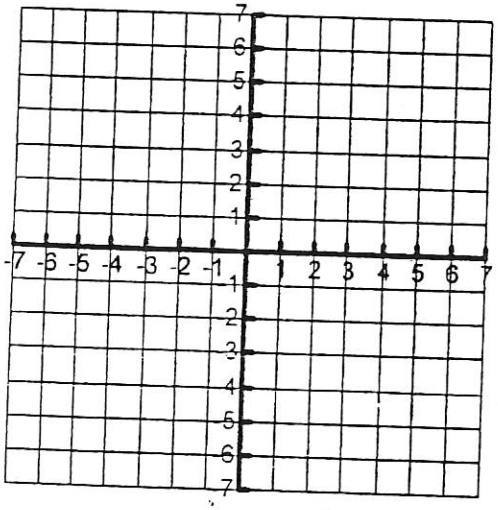
$y = -2x - 1$



2) Graph the system and state the solution.

$y = -3x + 9$

$y = -3x + 9$



3) The sum of two numbers is 72. Their difference is 18. Write a system of equations that describes this situation. Solve by elimination to find the two numbers.

4) Solve the system of equations using **substitution.**

$y = x - 2$

$2x + 2y = 4$

5) Solve the system using **elimination.**

$x - 12y = -14$

$2x + 3y = 26$

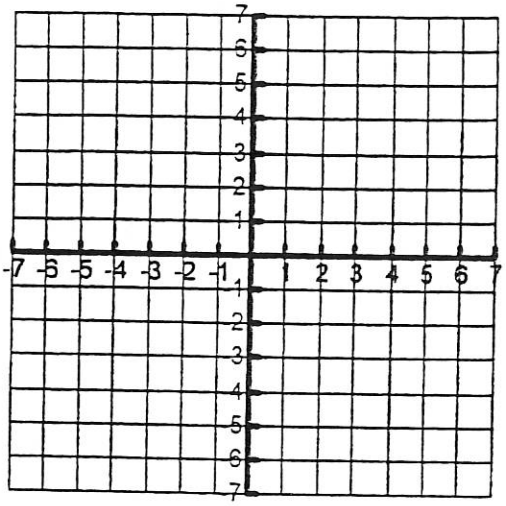
Tell whether the system has no solution, one solution, or infinitely many solutions.

a) $x+y=-3$
$x-y=3$

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

7) Graph the inequality. (Don't forget to shade!)

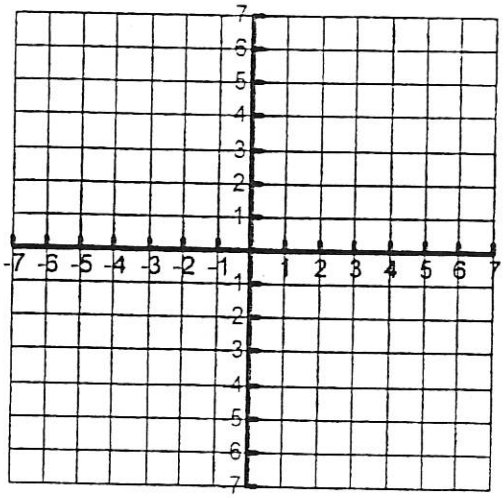
$y > 3x - 1$



8) Graph the system of linear inequalities.

$y \leq x + 4$

$2x + y < 4$



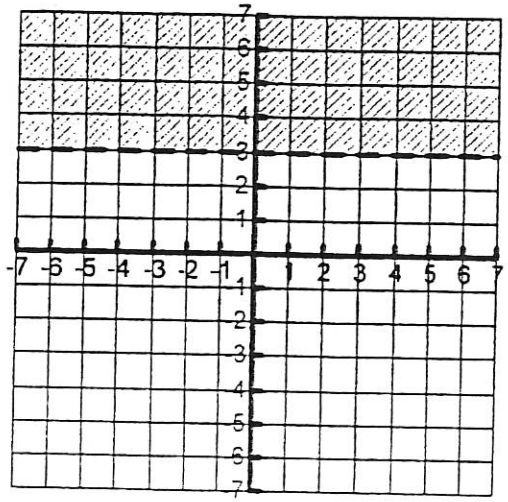
9) Without solving, what method would you choose to solve the system: *graphing*, *substitution*, or *elimination*? Explain your reasoning.

$2x - 3y = 61$

$2x + y = -7$

5 5 75 95 65 95 85 25 35 25 95 45 75 65 35 75 15 95 65

10) Write the linear inequality that would create the following graph:



11) Solve the following system of equations by the method of your choice:

$2x + 4y = 8$
$5x + y = -7$

Name_____ Class_____
Date_____

UNIT 7

GPS COMMON CORE

MCC8.EE.8
MCC8.EE.8b
MCC8.EE.8c

Performance Task

1. Pete's Pizza charges $13 for a pizza, and a soda costs $1.50. Mama's House charges $15 for a pizza, and a soda costs $1.

a. Will spends $48 for an order at Pete's. The same order costs $3 more at Mama's House. Write two equations that represent this situation.

b. Solve the system represented by the two equations. What does the order pair solution represent?

2. Eloise goes to the mall to buy 4 t-shirts and 2 pairs of pants. Each shirt costs the same price, as do the pants. The total price is $126, but she only has $85. Eloise returns a shirt and a pair of pants. The total price is now $81.

a. Write a system of equations to represent this situation. Define the variables that you use.

b. Solve the system from part a) to find the prices of a shirt and a pair of pants.

3. A coin purse has only nickels and quarters in it. The total value of the coins is $1.05.

a. Millie claims that there are 10 coins in the purse. Write and solve a system of equations for this situation.

b. Is Millie's claim correct? Explain how you know.

Name: _____ Date: _____

Expressions and Equations: Open-Ended Response Assessment Prep

Directions: Answer the question completely. Show your work and explain your reasoning.

Problem 1: Darell spends $58.50 to purchase a total of 30 pounds of assorted fruits costing $2.25 per pound and assorted vegetables costing $1.50 per pound for a catering job.

a. Using F and V to represent the number of pounds of fruit and vegetables purchased, respectively, write a system of two linear equations to model Darell's catering scenario.

b. Solve the system of equations obtained in part a.

c. Explain the meaning of the solution obtained in part b in terms of Darell's catering scenario.

Show your work.	**Explain your reasoning.**

NAME:

EXPRESSIONS AND EQUATIONS
CCSS 8.EE.8b

Understanding Systems of Linear Equations

Marika has asked you to help her understand how to solve systems of equations. Solve each system of equations below using a different strategy. Then explain to Marika why you chose that strategy for that system. Which are best solved by substitution? Which might be easily graphed? Which could be solved by elimination?

1. $y = x - 1$

   $3x - 4y = 8$

2. $3x + 2y = -10$

   $2x + 3y = 0$

3. $x + y = -10$

   $0.5x + 1.5y = 5$

4. $3x - 2y = 6$

   $-2x + 3y = 0$

Name _____ Class _____ Date _____

Reteaching 8-1

Zero and Negative Exponents

OBJECTIVE: Evaluating and simplifying expressions in which zero and negative numbers are used as exponents

MATERIALS: None

- When a nonzero number a has a zero exponent, then $a^0 = 1$.
- For any nonzero number a and any integer n, $a^{-n} = \frac{1}{a^n}$.

Example

Write each expression as an integer or a simple fraction.

a. 2.7^0

1 ← **Rewrite, using the property of zero as an exponent.**

b. 5^{-2}

$\frac{1}{5^2}$ ← **Rewrite as a fraction, using the property of negative exponents.**

$\frac{1}{25}$ ← **Simplify.**

Exercises

Write each expression as an integer, a simple fraction, or an expression that contains only positive exponents. Simplify.

1. 10^{-3}
2. 1.67^0
3. 5^{-4}
4. 7^{-3}
5. $\left(-\frac{3}{2}\right)^{-2}$
6. $(5x)^{-4}$
7. 4^{-1}
8. 376.5^0
9. b^{-5}

Write each expression so that it contains only positive exponents.

10. $\left(\frac{2}{7}\right)^{-4}$
11. $3ab^0$
12. -4^{-3}
13. $a^{-3}b^{-4}$
14. $\frac{3x^{-2}}{y}$
15. $12xy^{-3}$
16. $\frac{8}{4^{-2}}$
17. $\frac{(3x)^{-1}}{4}$
18. $\frac{(2x)^{-2}}{3y^{-1}}$
19. $\frac{(4x)^{-2}}{2^{-3}}$
20. $\frac{(3a)^2b^{-3}}{b^{-2}}$
21. $\frac{4^0 5^3}{2^{-3}}$

Name _____ Class _____ Date _____

Practice 8-1

Zero and Negative Exponents

Simplify each expression.

1. 16^0
2. 4^{-2}
3. 3^{-3}
4. 8^{-4}
5. $\frac{1}{2^{-5}}$
6. $\frac{4}{4^{-3}}$
7. $\frac{3}{6^{-1}}$
8. $\frac{2^{-1}}{2^{-5}}$
9. $3 \cdot 8^0$
10. $16 \cdot 2^{-2}$
11. 12^{-1}
12. -7^{-2}
13. $16 \cdot 4^0$
14. 9^0
15. $\frac{32^{-1}}{8^{-1}}$
16. $\frac{9}{2^{-1}}$
17. $\frac{8^{-2}}{4^0}$
18. $\frac{9^{-1}}{3^{-2}}$
19. $5(-6)^0$
20. $(3.7)^0$
21. $(-9)^{-2}$
22. $(-4.9)^0$
23. $-6 \cdot 3^{-4}$
24. $\frac{7^{-2}}{4^{-1}}$

Evaluate each expression for $a = -2$ and $b = 6$.

25. b^{-2}
26. a^{-3}
27. $(-a)^{-4}$
28. $-b^{-3}$
29. $4a^{-3}$
30. $2b^{-2}$
31. $(3a)^{-2}$
32. $(-b)^{-2}$
33. $2a^{-1}b^{-2}$
34. $-4a^{-2}b^{-3}$
35. $3^{-2}a^{-2}b^{-1}$
36. $(3ab)^{-2}$

Simplify each expression.

37. x^{-8}
38. xy^{-3}
39. $a^{-5}b$
40. m^2n^{-9}
41. $\frac{1}{x^{-7}}$
42. $\frac{3}{a^{-4}}$
43. $\frac{5}{d^{-3}}$
44. $\frac{6}{r^{-5}s^{-1}}$
45. $3x^{-6}y^{-5}$
46. $8a^{-3}b^2c^{-2}$
47. $15s^{-9}t^{-1}$
48. $-7p^{-5}q^{-3}r^2$
49. $\frac{d^{-4}}{e^{-7}}$
50. $\frac{3m^{-4}}{n^{-8}}$
51. $\frac{6m^{-8}n}{p^{-1}}$
52. $\frac{a^{-2}b^{-1}}{cd^{-3}}$

Write each number as a power of 10 using a negative exponent.

53. $\frac{1}{10{,}000}$
54. $\frac{1}{1{,}000{,}000}$
55. $\frac{1}{10{,}000{,}000}$
56. $\frac{1}{1{,}000{,}000{,}000}$

Write each expression as a decimal.

57. 10^{-5}
58. 10^{-8}
59. $4 \cdot 10^{-1}$
60. $6 \cdot 10^{-4}$

Evaluate each expression for $m = 4$, $n = 5$, and $p = -2$.

61. m^p
62. n^m
63. p^p
64. n^p
65. $m^p n$
66. m^{-n}
67. p^{-n}
68. mn^p
69. p^{-m}
70. $\frac{m}{n^p}$
71. $\frac{1}{n^{-m}}$
72. $-n^{-m}$