Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Chapter Four

 Test review

1. When a family with two adults and three children bought tickets for an amusement park, they paid a total of $56.50. The next family in line, with four children and one adult, paid $49.50. Find the adult and child prices.

 Define your variables, and write two equations to represent the given information in

 this situation and solve using any method. *10 points*

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2. Given the line y = -3x +b passes through the point (*-3*, -1). What is *b*?

Solve for *x*:

3. (x + 4)(x + 3) = (x + 2)(x + 1)  4. $\frac{2}{3}x+7=\frac{-1}{5}x+3$

5. I have two equations, Equation A and Equation B. When I graph these two lines I only see one line. What can you tell me about the equations of line A and line B?

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6. I have two more equations, Equation C and Equation D. When I graph these two lines they are parallel. What can you tell me about the equations of line C and line D?

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Solve each system below using whatever method you prefer. Show all work!

7. 4x – 3y = -10 8. 4x + 5y = 11

 x = $\frac{1}{4} $y - 1 2x + 6y = 16

9 a) Henry’s potato vine is growing like crazy! When he planted it, it was 7 inches long. Two weeks later, it was 14 inches long. Two weeks **after that**, it was 21 inches long. Graph this data and write an equation to represent this situation. Make sure you label your axes!!!

b) Bernice also planted a potato vine the same time Henri did, and Bernice’s vine’s length follows the equation ***y= 2x + 5***. Will their two vines ever be the same length? How do you know? Explain.

11. Solve this equation for y: 3*x* − 2*y* = -8

12. a. Graph the system of inequalities on the graph given.

 2x + *y* > 5

  *y* ≤ 1/3 *x*− 1

13. Leah would like to earn at least $120 per month. She babysits for $5 per hour and works at an ice cream shop for $8 per hour. Leah cannot work more than a total of 20 hours per month. Let x represent the number of hours Leah babysits and y represent the number of hours Leah works at the ice cream shop.

a. Write a system of inequalities that will represent the problem: 1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. Graph this system below: 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



c. inequality # 1 x-intercept \_\_\_\_\_\_\_\_\_\_

 y-intercept \_\_\_\_\_\_\_\_\_\_

 d. inequality # 2 x-intercept \_\_\_\_\_\_\_\_\_\_

 y-intercept \_\_\_\_\_\_\_\_\_\_\_\_

13. Write an equation for a line that has a slope of $\frac{4}{3}$ and passes though (-3, -3).

14. Write an equation for a line that passes through (4, 4) and (3, -2).

15. Identify the following functions as even, odd, or neither.

a. $f\left(x\right)=x^{2}+x^{4}-x^{6}$ b. $f\left(x\right)=2x+5$

c. $f\left(x\right)= 10x^{3}-4x^{2}+3x-8$ d. $f\left(x\right)=2x^{5}+3x^{3}-x$

17.

Circle the correct answer for each question: *3 points each*



Simplify the following:

18. $6x(3x^{4}-3x^{3}+6)$ 19. $\left(3x-5\right)^{2}$

20. $\left(4x-5\right)\left(4x+5\right)$ 21. $\left(2x-7\right)\left(x+4\right)$