Algebra 1: 6.1 Quiz Review **Name _____ Period _____**

Slope-Intercept Form

Rewrite each linear equation in slope-intercept form. $y = mx + b$

1. $4x - 8y = 24$

2. $9x = 3y - 18$

3. $7x - 7y + 21 = 0$

Break-Even Point

Fill in the blank with >, <, or =.

4. Before a new business reaches its break-even point, its costs are _____ its income.
5. Once a business is profitable, its costs are _____ its income.
6. At the break-even point, a business's costs _____ its income.

Solve the following by graphing.

7. Eric sells model cars at a local flea market. He purchases each model car from a distributor for $10, and the flea market charges him a booth fee of $50. Eric sells each model car for $20.

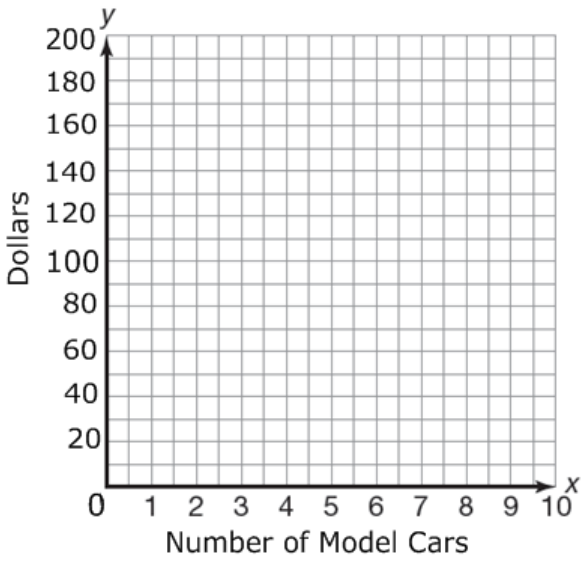
Income equation:

Cost/Expense equation:

Break-even Point:

Describe the solution in terms of the problem situation. Fill in the blank.

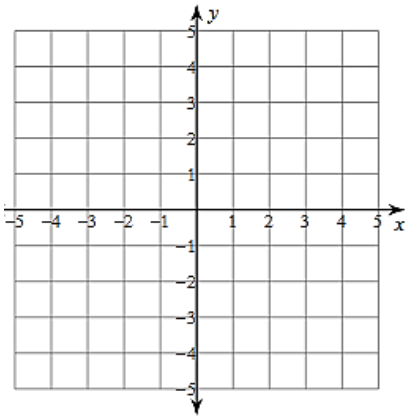
Eric needs to sell _____ model cars to break-even so his cost/income will be $_____.



Graphing

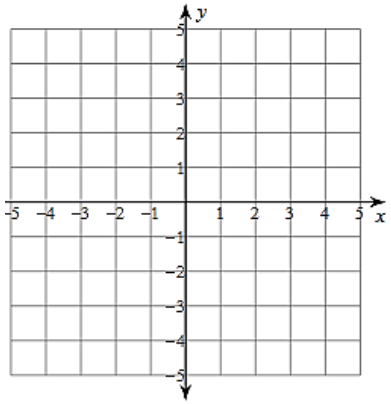
Solve each system of equations by graphing. Specify whether there is no solution, infinite solutions, or write the ordered pair (*x*, *y*) if there is one solution.

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



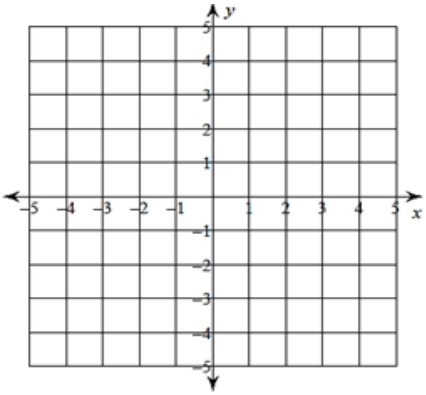
Solution: _____

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



Solution: _____

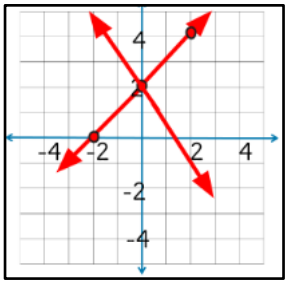
10. $-x + 3 = y$
    $-3 + y + x = 0$



Solution: _____

Label each system of equations as one solution, no solution, or infinite solutions. Then, label each system as consistent or inconsistent.

11.



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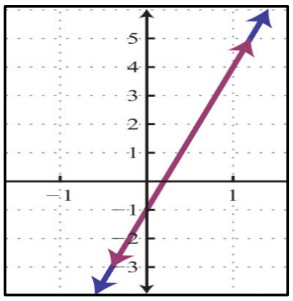
12.



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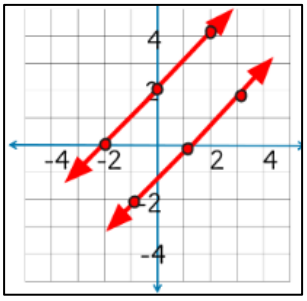

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Substitution

14. Workout Plus offers a membership for $30 each month plus a $100 start-up fee. Fit Works offers a membership for $50 each month plus a $20 start-up fee. Write a system of linear equations to represent each workout facility. Then, use **substitution** to determine when the memberships to both gyms cost the same amount.

    Workout Plus: y =

    Fit Works: y =

    Solution:

    Describe the solution in terms of the problem situation. Fill in the blanks.

    After _____ months, the memberships to both gyms will cost the same amount of money. Each of membership will cost $_____.

15. Bob has to decide which cell phone plan to use. AT&T charges $30 plus $0.10 per minute of data usage. Verizon costs $45 plus $0.08 for every minute of data. Write a system of linear equations to represent each cell phone plan. Then, use **substitution** to determine when both cell phone plans will charge the same amount.

    AT&T: y =

    Verizon: y =

    Solution:

    Describe the solution in terms of the problem situation. Fill in the blanks.

    After _____ minutes, each cell phone plan will cost $ _____.

Solve each system using substitution. If needed, rewrite equations in integer form first.

16. $\begin{cases} -2x+8y=4 \\ y=2 \end{cases}$

17. $\begin{cases} y=-7x-7 \\ y=-6x-5 \end{cases}$

18. $\begin{cases} -0.5x+0.3y=-0.7 \\ 0.1y=0.6x+0.2 \end{cases}$

19. $\begin{cases} y=-3x-16 \\ -3x-y=16 \end{cases}$

20. $\begin{cases} 5x+y=1 \\ 15x+3y=-7 \end{cases}$

21. $\begin{cases} \frac{1}{2}x+\frac{3}{2}y=5 \\ \frac{1}{3}y=2x-1 \end{cases}$