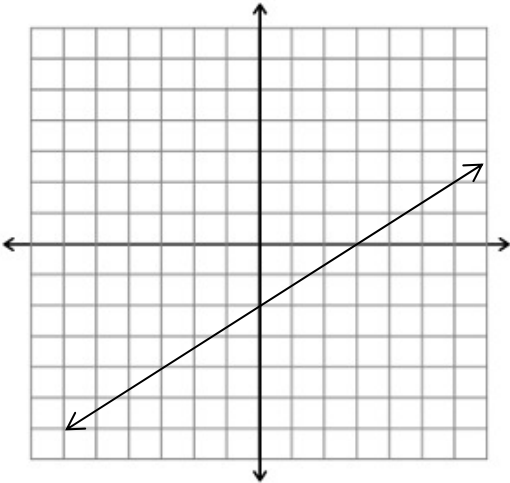


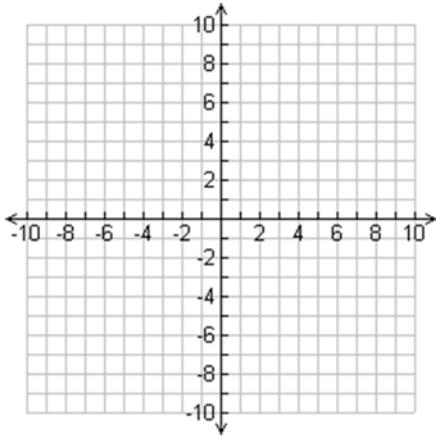
Fayette County Algebra I Comprehensive Assessment for Learning (CAL)

Directions: Show all work in the appropriate box and circle your final answer. Follow the directions specific for each question.

<p>1. Simplify: $4(4 - 9) \div [2^2 - 4 + 3(-4 + 2) - 4]$</p>	<p>2. Solve for x: $72 = 4(3 + 4x) - 10x$</p>
<p>3. Solve for x: $6(x + 5) = 10 - (7x - 7)$</p>	<p>4. Solve using an algebraic equation. You must show the equation and precisely how you solved it.</p> <p>Janet has 4 more dollars than Marta. Together they have \$38. How much does each person have?</p>
<p>5. Solve using an algebraic equation. You must show the equation and precisely how you solved it.</p> <p>Three times the sum of 4 and a number is twice the number. Find the number.</p>	<p>6. Find the equation of the line shown below:</p> 

7. Graph the line on the coordinate grid:

$$4x - 5y = -20$$



8. Find the slope of the line that passes through the points $(-4, 7)$ and $(3, -2)$.

9. Find the equation of the line with a slope of $-\frac{2}{5}$ that passes through the point $(10, -3)$. Write your answer in slope-intercept form.

10. Solve the system of equations using any algebraic method.

Write your answer as an ordered pair.

You must show all work.

Do not use guess and check.

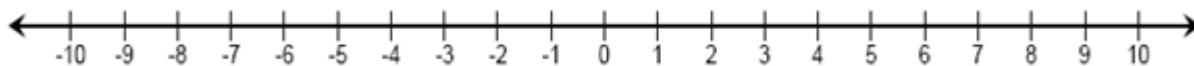
$$\begin{cases} 3x + 5y = -4 \\ -2x - 4y = 2 \end{cases}$$

11. Solve using a system of equations. You must show all of your work. **Do not** use guess and check.

Your school had a bake sale and 110 cakes were sold. Chocolate cakes were \$3.50 and vanilla cakes were \$5.00. Your school collected \$457 from the sale of these cakes.

- How many chocolate cakes were sold?
- How many vanilla cakes were sold?

12. Solve for x and graph on the number line below: $-5 \leq -3x + 4 < 25$



13. Simplify completely. Write the answer with no negative exponents: $\frac{36x^6y^3z^3}{48x^2y^3z^7}$

14. Simplify:
 $(-4x^2 + 3x - 7) - (4x^2 - 2x + 4)$

15. Multiply: $(2x + 6)(3x - 4)$

16. Factor completely: $9x^2 - 25$

17. Factor completely: $x^2 + 21x - 72$

18. Factor completely: $4x^4 - 2x^3 + 6x$

19. Solve for x : $6x^2 - 7x - 3 = 0$

20. Solve for x : $x^2 - 13x = 48$

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PART B **Show all work and circle your final answer. Follow the directions specific to each question.**

21. What is the common ratio for the geometric sequence -3, 6, -12, 24, ...?

22. Solve the following quadratic by factoring: $12x^2 - 2x = 4$.

23. Solve the following quadratic by taking the square root: $(x - 1)^2 = 45$

24. Solve the following quadratic by the quadratic formula: $x^2 - 3x - 24 = 0$?

25. Simplify $\sqrt{32}$ completely.

26. Find the vertex of the following function: $y = -2(x - 3)^2 + 4$

Use the graph to the right to answer #27 – 30.

27. State the range for the following graph.

28. State the domain for the graph

29. State the axis of symmetry

30. State the vertex and indicate if it is a max or min

