9th Grade Math Placement Exam
Fayette County Public Schools

Please complete the following before you begin.

First Name_____ Middle Initial_____ Last Name_____
(Please use your real first name. No nicknames.)

High School where you will be attending next year_____

Current Middle School_____

Current Math Teacher_____ **Current Math Course**_____

Parent/Guardian Name(s)_____

Address_____ **Zip Code**_____

Phone Number_____ **Parent's Email Address**_____

Placement Test Rules:
- Print Clearly
- Calculators are permitted (Follow ACT rules)
- NO personal electronic devices
- Show All Work

Good Luck!

— — — — — — — — — — . DO NOT WRITE BELOW THIS LINE — — — — — — — — — — — —

School Use Only: Exam Scores

Algebra I: _____   Geometry: _____   Algebra II: _____

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

1. Simplify: $2(2-7) \div [3^2 - 2 + 4(-3+1) - 4]$	2. Solve for x: $-57 = 3(1+4x) - 8x$
3. Solve for x: $3(x-4) - 5x = 2(x+4) - 15$	4. Solve using an algebraic equation. You must show the equation and precisely how you solved it. Kasey has two dollars more than Ashleigh. Together they have $34. How much does each have?
5. Solve using an algebraic equation. You must show the equation and precisely how you solved it. Four times a number, increased by 25, is 13 less than 6 times a number. Find the number.	6. Find the equation of the line shown below:
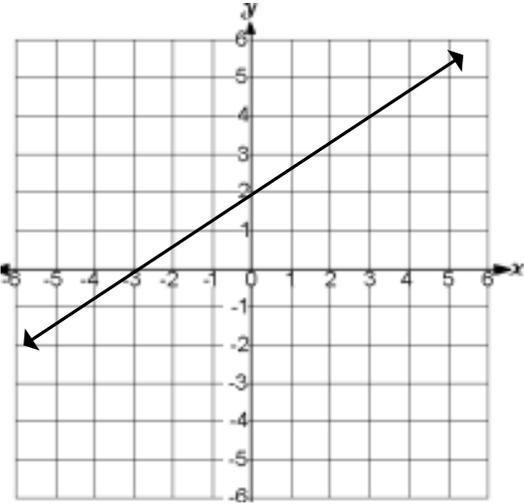
7. Graph the line on the axes: $2x + 3y = -18$
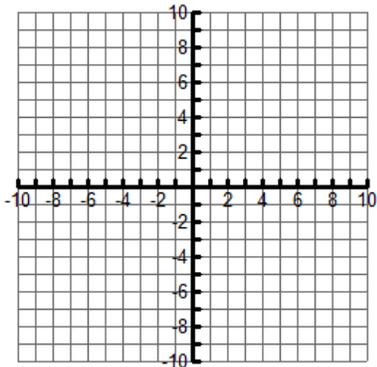
8. Find the slope of the line passing through the points (-5, -7) and (3, -4).

9. Find the equation of the line with a slope of $-\frac{3}{2}$ that passes through the point (-4, 9). Write your answer in slope-intercept form.

10. Solve the system of equations using any algebraic method.
Write your solution as an ordered pair.
You must show all your work.
Do not use guess and check.

$$\begin{cases} 4x + 3y = -7 \\ -6x - 5y = 9 \end{cases}$$

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

Your school held a talent show and 145 tickets were sold. Adult tickets were $12.50 and student tickets were $9.00. Your school collected $1522 from the sale of these tickets.

- How many adult tickets were sold?
- How many student tickets were sold?

12. Solve for x and graph on the number line below: $-13 < -4x - 5 \le 19$

$$\begin{array}{c}\longleftarrow \underset{\substack{-10\ -9\ -8\ -7\ -6\ -5\ -4\ -3\ -2\ -1\ \ 0\ \ 1\ \ 2\ \ 3\ \ 4\ \ 5\ \ 6\ \ 7\ \ 8\ \ 9\ \ 10}}{\rule{0pt}{0pt}} \longrightarrow\end{array}$$
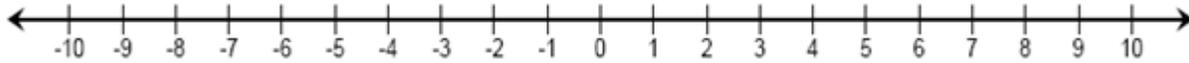
13. Simplify completely. Write the answer with no negative exponents: $\dfrac{45x^5 y^8 z^2}{60x^5 y^5 z^5}$

14. Simplify: $\left(-3x^2 - 5x - 8\right) - \left(3x^2 - 4x - 7\right)$

15. Multiply: $(3x - 7)(4x + 9)$

16. Factor completely: $25x^2 - 81$

17. Factor completely: $x^2 + 18x - 63$

18. Factor completely: $3x^2 - 12x - 15$

19. Solve for x: $8x^2 + 2x - 3 = 0$

20. Solve for x: $x^2 - 14x = 51$