Unit 2 Mid Asmt Review **Name: _____ Pd: _____**

1. Select all the equations that are equivalent to $\frac{8x-7}{2} = -4$

A. 4x – 7 = -4
B. ½(8x – 7) = -4
C. 4x – 3.5 = -4
D. 8x – 7 = -4
E. 8x – 7 = -8

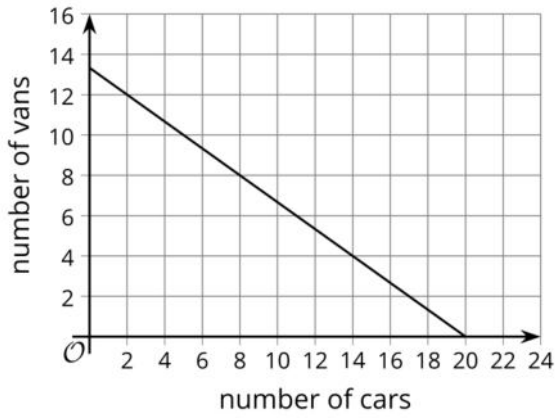
2. Select all the equations that have the same solution as $\frac{6x+5}{2} = 7 - (2x - 6)$

A. $3x + \frac{5}{2} = 7 - (2x - 6)$
B. $\frac{6x+5}{2} = 2x + 1$
C. $\frac{6x}{2} + \frac{5}{2} = -2x + 13$
D. 3x + 2.5 = -2x – 1

3. A chef bought $15.25 worth of ribs and chicken. Ribs cost 1.79 per pound and chicken costs 0.95 per pound. The equation $0.95c + 1.79r = 15.25$ represents the relationship between the quantities in this situation.

A. Write this equation in terms of c. B. Write this equation in terms of r.

4. Volunteer drivers are needed to bring 80 students to the championship baseball game. Drivers either have cars, which can seat 4 students, or vans, which can seat 6 students. The equation $4c + 6v = 80$ describes the relationship between the number of cars c and number of vans v that can transport exactly 80 students.



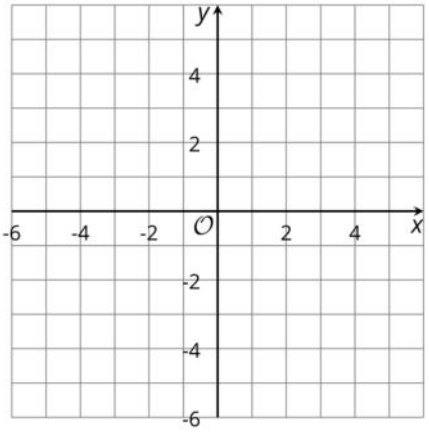
Select all the true statements.

A. If no vans were needed, 13 cars would be needed.
B. If no cars were needed, 13 vans would be needed.
C. If no vans were needed, 20 cars would be needed.
D. If 14 cars are needed, that means that 4 vans will be needed.
E. If 2 vans are needed, that means that 12 cars will be needed.

5. T-shirts cost $15. Each letter of personalization costs $1.25, and each number costs $2.50. Write an equation that represents the cost of a t-shirt. Be sure to specify what the variables represent.

6. Consider this system of equations. Solve the system by graphing. Label each graph and the solution.

$$\begin{cases} y = \frac{1}{2}x - 4 \\ -5x - 5y = 5 \end{cases}$$



7. Solve the system of equations without graphing. **Show your reasoning.**

A. $\begin{cases} 3y = 2x + 12 \\ 3x + 3y = 12 \end{cases}$

B. $\begin{cases} 4y = -3x - 3 \\ x + 2y = -1 \end{cases}$

8. The system of equations $\begin{cases} 4x + 2y = 8 \\ 3x + y = 6 \end{cases}$ has exactly one (x, y) pair for its solution.

a. Find the solution using substitution. Show all work.

Solution: _____

b. If we multiply the second equation by 2, we now have the following system $\begin{cases} 4x + 2y = 8 \\ 6x + 2y = 12 \end{cases}$. Use elimination to show that it has the same solution as Part A.

c. If we add the two equations in the original system, we have $10x + 4y = 20$. Is the same ordered pair the solution to the system? (circle)

yes no

d. Justify your answer to Part C using math.