PRACTICE TEST UNIT 4: Systems of Linear Equations

8th Grade Math Name:_____

For 1 & 2, Solve the following equations for y. This means into the form y = mx + b.

1. 12 – y = 3x

2. -30 = 3y + 12x

#1 answer: _____ #2 answer: _____

For 3–5, circle the number of solutions that the system will have and circle the correct explanation.

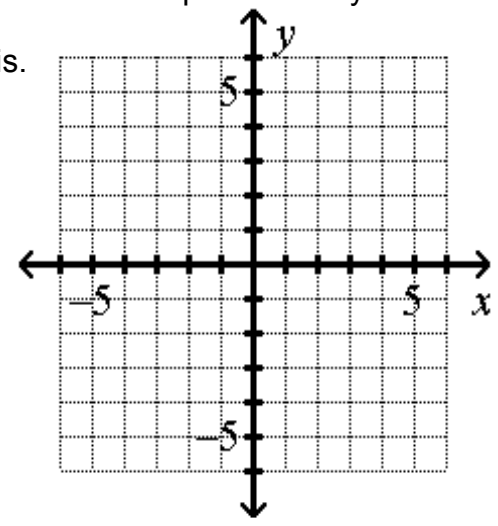
			Explanation		
3.	y = 6x – 8 y = 9 + 6x	zero one infinitely many	Same Slopes & Different y–intercepts	Same Slopes & Same y–intercepts	Different Slopes
4.	$y = \frac{1}{5}x + 9$ $y = 5x + 9$	zero one infinitely many	Same Slopes & Different y–intercepts	Same Slopes & Same y–intercepts	Different Slopes
5.	$y = .\overline{3}x + 11$ $y = \frac{1}{3}x + 11$	zero one infinitely many	Same Slopes & Different y–intercepts	Same Slopes & Same y–intercepts	Different Slopes

For 6–8, solve by the given method. Write your answer as an ordered pair. Show your work.

6. Solve by **graphing**. Both lines need to cross each axis.

y = –4x + 3
y = –4x – 2

Write your answer as an ordered pair.



#6 answer: _____

7. Solve by **substitution**.

$x = y + 1$

$x + 2y = 10$

#7 answer: _____

8. Solve by **elimination**.

$4x + y = 1$

$4x + -5y = -5$

#8 answer: _____

For 9– 13, Solve using any method you choose. Write your answer as an ordered pair. Show all of your work.

9. $5x - 6y = 4$

$4x + 3y = 11$

#9 answer: _____

10. $-3x + 6y = 18$

$x - 2y = -10$

#10 answer: _____

11. $y + 2x = 20$

$x = y + 4$

#11 answer: _____

12. $y = x - 3$

$y = -x + 1$

#12 answer: _____

13. $-8 = -6y + 2x$
$x = 3y - 4$

#13 answer: _____

14. Line 1 goes through the points (-7, -5) and (7, -19) and Line 2 line goes through the points (2, 6) and (3, 10). Will Line 1 and Line 2 intersect? Show evidence to support your answer by showing your work mathematically.

#14 answer: Circle one YES or NO If YES, write answer as an order pair: _____

For 15–19, use the following information. Dan and Lucas are having a weight lifting competition. Dan starts with 110 pounds on the bench press and goes up 6 pounds a week, while Lucas starts with 60 pounds but goes up 11 pounds each week.

15. Create an equation for Dan's situation.

#15 answer: _____

16. Create an equation for Lucas's situation.

#16 answer: _____

17. Solve the system of equations. *Write your answer as an ordered pair. Show your work.*

#17 answer: _____

18. **When** will Dan and Lucas lift the same amount of weight? #18 answer: _____

19. When they lift the same weight, **how much** weight is it? #19 answer: _____

For 20–24, use the following information. There are 11 animals in a barnyard. Some are chickens and some are sheep. There are 38 legs in all. How many of each type of animal are in the barn?

20. Create an equation to represent the number of animals. #20 answer: _____

21. Create an equation to represent the number of legs. #21 answer: _____

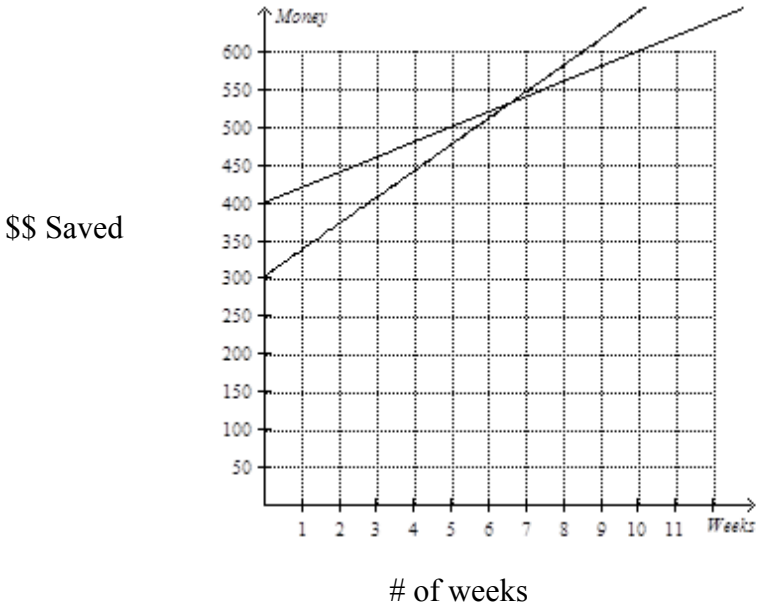
22. Solve the system of equations. *Write your answer as an ordered pair. Show your work.*

#22 answer: _____

23. How many chickens are in the barn? #23 answer: _____

24. How many sheep are in the barn? #24 answer: _____

For 25 & 26, use the following information. The graph below illustrates the rate at which Dave and Kari are saving money.



25. Write down an ***Estimate*** to the solution. Write the answer as an ordered pair.

#25 answer: _____

26. Distinguish what this point means in the context of the car loan scenario.

_____

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