

Name _____ Pd _____ Date _____ **2S Test Study Guide**

Complete this study guide and turn in *on the day of your test* to earn +5 EXTRA CREDIT on the test!

Directions #1 - 2: What is the solution of the system? Use substitution.

1) $4x + 3y = 5$
 $y = 2x - 5$

2) $-2x + 5y = 14$
 $y = -x + 7$

Directions #3 - 6: What is the solution of the system? Use elimination.

3) $x - 3y = 7$
 $3x + 3y = 9$

4) $4x - y = -9$
 $-4x + 9y = 17$

5) $10x + 7y = -9$
 $-5x - 3y = 6$

6) $-x + 4y = 25$
 $3x - y = 13$

Directions 7-10: Define x and y . Write a system of linear equations. Solve the system using any method. Use units in your final answers of complete sentences.

7) You are purchasing jeans and T-shirts. Jeans cost \$35 each, and T-shirts cost \$15 each. You plan on spending \$115 in all on 5 items total. How many jeans will you buy? How many T-shirts?

8) Your family is planning a 7-day trip to Florida. You estimate that it will cost \$275 per day in Tampa and \$400 per day in Orlando. Your total budget for the 7 days is \$2300. How many days should you spend in each location?

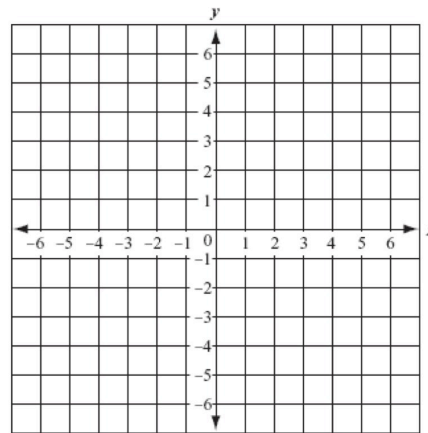
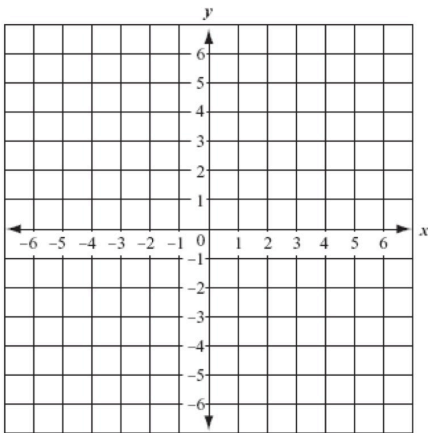
9) The local amusement park is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 16 vans and 8 buses with 752 students. High School B rented and filled 8 vans and 5 buses with 434 students. Each van and each bus carried the same number of students. How many students can a van carry? How many students can a bus carry?

10) A landscaping company placed two orders with a nursery. The first order was for 13 bushes and 4 trees, and totalled \$487. The second order was for 6 bushes and 2 trees, and totalled \$232. The bills do not list the per-item price. What were the costs of one bush and of one tree?

Directions #11 - 12: Graph the system of equations. Tell how many solutions the system has. Justify.

11) $y = 2x + 1$
 $-4x + 2y = 2$

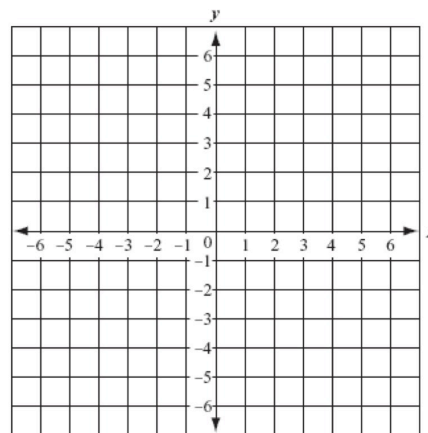
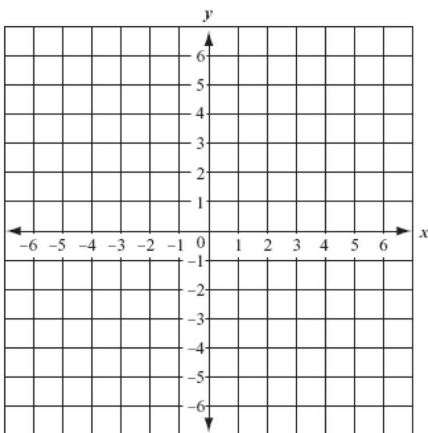
12) $y = 3x + 4$
 $9x - 3y = 6$



Directions #13 - 14: Graph the linear inequality. Label a solution to the inequality. Justify.

13) $y > -\frac{2}{3}x + 5$

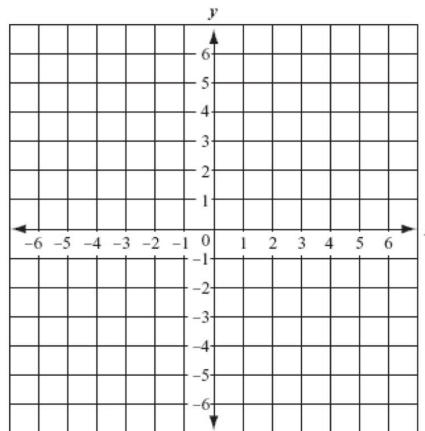
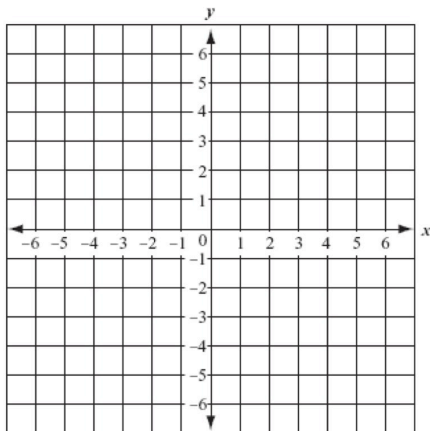
14) $y \leq \frac{1}{4}x - 3$



Directions #15 - 16: Graph the system of linear inequalities. Label a solution to the system. Justify.

15) $y > 2x - 4$
 $x \geq -1$

16) $y \leq 4x - 3$
 $y > -1$



Directions #17 - 18: Which system of linear inequalities best represents the situation?

17) Karen is selling prom tickets. She sells senior tickets for \$50 each and junior tickets for \$40 each. She needs to make at least \$2000, but she expects that no more than 150 tickets will be sold in total. (Let x = number of senior tickets sold and y = number of junior tickets sold.)

- a. $x + y \geq 2000$ b. $x + y \leq 150$ c. $x + y \geq 150$ d. $x + y \leq 2000$
 $50x + 40y \leq 150$ $50x + 40y \geq 2000$ $50x + 40y \leq 2000$ $50x + 40y \geq 150$

18) Martin works two jobs. He makes \$6 per hour working with his dad and \$14 per hour mowing lawns. This week, he wants to earn at least \$84, but he only has time to work a maximum of 10 hours. (Let x = number of hours working with dad and y = number of hours mowing lawns.)

- a. $x + y \geq 84$ b. $x + y \geq 10$ c. $x + y \leq 10$ d. $x + y \leq 84$
 $6x + 14y \leq 10$ $6x + 14y \leq 84$ $6x + 14y \geq 84$ $6x + 14y \geq 10$

Directions #19: Categorize the 3 systems of equations according to whether you would prefer to solve them by elimination (E) or by substitution (S). For each system, explain your classification. (You do NOT need to solve the systems.)

System	Method	Explanation
$5x + 3y = 11$ $y = 3x - 7$		
$5x + 2y = 7$ $3x - 2y = 10$		
$2x + y = 8$ $3x + 5y = -6$		

Directions #20 - 21: Define x and y . Write a system of linear equations to represent the situation. Make a table and a graph. **Write a complete sentence** to describe the solution in the context of the situation.

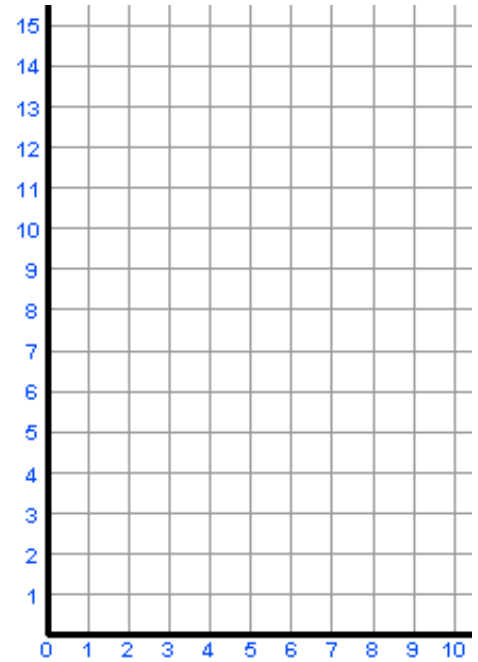
13) Stacie and Taylor send postcards while on vacation. Stacie has already sent 2 postcards while Taylor has already sent 5 postcards. However, Stacie sends 3 postcards every day on the vacation, while Taylor sends 2 per day.

Stacie's Mail Equation

Taylor's Mail Equation

X:	Y:

X:	Y:



14) Carnival A charges no admission fee and \$5 per ride. Carnival B charges a \$3 admission fee but only \$4 per ride.

Carnival A Equation

Carnival B Equation

X:	Y:

X:	Y:

