# Unit 1 Review Sheet Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Honors Math 3 Date \_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_

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| 1) a) Find the slope-intercept form of the equation that is parallel to 3x + 4y = -12 and passes through (-2, 5).b) Find the slope-intercept form of the equation that is perpendicular to 3x + 4y = -12 and passes through (4, -1). c) Of the following set of linear equations, two of them are either parallel or perpendicular. Which are they? Are they parallel or perpendicular? 1) y = -2x + 3 2) $\frac{y}{2}=x+\frac{5}{2}$ 3) $-\frac{x}{3}=-\frac{2y}{3}-2$ |
| 1. a) Fill in the following with Same, Different, or Doesn’t Matter.

 Parallel lines have the \_\_\_\_\_\_\_\_\_\_\_\_ slope and \_\_\_\_\_\_\_\_\_\_\_\_\_ y-intercept. Perpendicular lines have the \_\_\_\_\_\_\_\_\_\_\_\_\_ slope and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ y-intercept. Oblique lines have the \_\_\_\_\_\_\_\_\_\_\_\_\_ slope and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ y-intercept.b) Find the relationship between Line 1 and Line 2. Line 1 passes through (3, -7) and (-2, 1). Line 2 passes through (2, 3) and (10, 8). |

3. Cheapo Rentals charges a flat rate of $30 to rent a car and $0.25 each for every mile driven. Deluxe Rentals charges no flat rate, but they charge $0.35 for every mile driven. Which system of equations should be used to solve the problem?

**a.  b.  c.  d. **

 Classify the system 

**a.** independent  **b.** inconsistent **c.** dependent **d.** equivalent

Classify the system 

**a.** independent  **b.** inconsistent **c.** dependent **d.** equivalent

Solve the system of equations by graphing. Solve the system of equations by substitution.



**4.**  **5.  \_\_\_\_\_\_\_\_\_\_**

\_\_\_\_\_\_\_\_\_\_

**Solve the system of equation by elimination.**  **Solve using substitution or elimination.**

**6.  \_\_\_\_\_\_\_\_\_\_\_ 7.  \_\_\_\_\_\_\_\_\_\_\_**

Solve each system of inequalities by graphing. (3 pts)

 **8. **

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| 9. How many solutions does each type of system have?1. Independent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Dependent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Inconsistent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | 10. Write the system as a matrix equation and find the solution.  |
| 11. Solve the system by hand. .  | 12. Given the following vertices for the feasible region of a linear programming graph, at which point does the minimum value occur given the objective quantity?**a)** (-1,-5) **b)** (-6,5) **c)** (5,2) **d)** (6,-5) |
| http://mathbits.com/MathBits/StudentResources/GraphPaper/14by14%20axes.jpg13. The Northern Wisconsin Paper Mill can convert wood pulp to either notebook paper or newsprint. The mill can produce at most 200 units of paper a day. At least 10 units of notebook paper and 80 units of newsprint are required daily by regular customers. If profit on notebook paper is $500 per unit and profit on newsprint is $350 per unit, how much should the manager have the mill produce to maximize his profits? How many units of notebook paper and how many units of newsprint must be produced to maximize profits?

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| Variables: x = y =  | Objective Function: |
| Constraints:  | Computation Box: |
| Answer in complete sentence:  |

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| 1. Write a system for the problem. Solve using any method. DEFINE VARIABLES!

 Chloe bought 3 marbles and 5 jacks and her total charge was $7.25. Sam bought 2 marbles and 9 jacks and she paid $10.50. How much does each marble and jack cost? | 1. As a receptionist for a veterinarian, one of Dolores Alvarez’s tasks is to schedule appointments. She allots 20 minutes for a routine office visit and 40 minutes for a surgery. The veterinarian cannot do more than 6 surgeries per day. The office has 7 hours available for appointments. Write a system of inequalities that would qualify as constraints for this linear programming problem.
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| 1. You decide to train for a marathon and start out running 2 miles, adding 3 more miles each week. How many miles will you be running in the 4th week? Write an explicit and recursive formula for this sequence. How many miles will you run in the 20th week?

Explicit: 20th Week:Recursive: | 1. Given the recursive or explicit formula for an arithmetic sequence, write the other formula.

Recursive: a1 = 5, an = an-1 – 6Explicit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Explicit: an = 14+ (n – 1)(-3)Recursive: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Hint: It might help you to write out the formulas from your notes (without numbers) first! |