Inequalities Test Review

1. State the slope and y-intercept of: $3x - 5y = 20$

2. State the x- and y-intercepts of: $4x - 6y = 12$

3. Graph the function: $2x + 3y = 6$

4. The equation of a line is $y = mx - 2$. Determine the value of m if the line goes through the point (3, 5).

5. Graph the linear function that goes through the point (3, 0) and has a slope of $\frac{-2}{5}$.

6. For the inequality 2x + 3y >6:

a) Should the boundary be line be dashed or solid?

b) Graph the inequality.

c) Do you shade above or below the line? How do you know?

d) Which of the following points are in the solution region?

i) (1,1)   ii) (1, 0)   iii) (1, 2)

7. Graph each system of equations. Shade the appropriate regions (**use graph paper or separate piece of loose leaf**).

1) y≥6	1) y > −2x +8	1) 2x −4y ≤ 8
2) 3y ≥ −6x − 12	2) x < 3	2) y < −3x +1

8. Herman's favourite activities are going to the movies and skating with friends. He budgets no more than $120 a month for entertainment. Movie admission is $10 per movie, and skating costs $8 each time.

a) Define the variables and write **1** linear inequality to represent the situation

b) Graph the linear inequality

c) Use the graph to determine:

i) a combination that Herman can afford and still have some money left over.

ii) a combination of activities that he can afford with no money left over.

9. Mr.Hopper loves to golf but he also loves to play baseball. He is only able to afford to play golf a maximum of 16 hours a week. He also wants to spend at least 10 hours a week playing baseball. He only has 24 hours a week that he can use to do both activities.

a) Create inequalities and graph them to show this scenario.

b) Give one possible solution (x,y coordinate) and explain what it means for this scenario.

10. Josh's online company sells hand crafted furniture. His two best sellers are kitchen tables and coffee tables. Find out the optimum combination of these two items Josh should sell to maximize his profit.

- The time to create kitchen tables limits the number of them he can make to 15 in one week.

- The number of coffee table is limited to 25.

- The amount of supplies available only allows Josh to create 35 tables every week.

- Josh makes $50 per kitchen table and $35 per coffee table.