

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Please show all steps!!

(a) Graph the solution set of the linear inequality $x + 3y \geq 3$.

(b) Graph the solution set of the linear inequality $x - y \leq 1$.

(c) Graph the solution set of the compound linear inequality

$$x + 3y \geq 3 \quad \mathbf{and} \quad x - y \leq 1.$$

2. Hiroto Tanaka invested ¥1M(illion) partly in American and partly in Japanese stocks. The return rate of the American stocks was 12%, whereas that of the Japanese stocks was 8%. If Mr. Tanaka earned twice as much from the Japanese investment as from the American one, how much did he invest in each kind of stock?

(a) Introduce variables and **precisely** state their meaning.

(b) Write (carefully) equations that reflect the given data.

(c) Solve the system of equations to answer the question posed.