

Content and Language Objective:

Students will be able to write multiple equations in standard form from a given scenario using inequalities

Warm Up: Write inequalities for...

- 1) Ricky spent at least \$150 at the mall today.
- 2) To wrestle in the heavyweight class, a high school student can weigh no more than 245 pounds.
- 3) Grapes grow best between the temperatures of 55 and 80 degrees.
- 4) To win a Las Vegas bet at the AFC championship, the Patriots must beat the Ravens by at least 10 points.

Content and Language Objective:

Students will work on writing linear programming equations using multiple equations and use their graphs and equations to make observations and predictions about the problems.

A farmer can plant up to 8 acres of land with wheat and barley.

$$w + b \leq 8$$

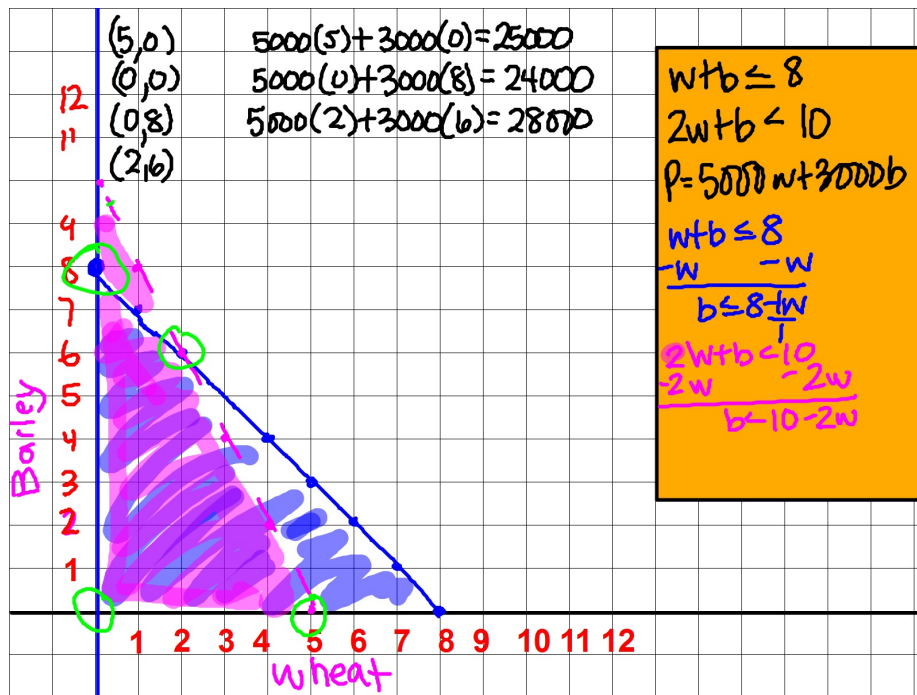
He can earn \$5,000 for every acre he plants with wheat and \$3,000 for every acre he plants with barley.

$$P = 5000w + 3000b$$

His use of a necessary pesticide is limited by federal regulations to 10 gallons for his entire 8 acres.

Wheat requires 2 gallons of pesticide for every acre planted and barley requires just 1 gallon per acre.

$$2w + 1b \leq 10$$



A = Food A B = Food B

Protein
 $2A + 6B \geq 30$

Fat
 $4A + 2B \geq 16$

Total
 $A + B \leq 12$
 $-A \quad -A$
 $\hline B \leq 12 - A$

