Use the following information to answer Questions 6 and 7.

A vegetable, mondo, is known to contain 5 units of vitamin V1 and 2 units of vitamin V2 per kilogram.
Another vegetable, dalyroot, is known to contain 6 units of vitamin V1 and three units of vitamin V2 per kilogram.
Health-conscious Maurice eats x kg of mondo and y kg of dalyroot every day and wishes to achieve the minimum daily intake of V1 and V2 through eating these vegetables only.

Question 6

Which set of inequalities represents the constraints that would be used in determining the weight (kg) of mondo and dalyroot which Maurice must eat to provide the daily requirement of vitamins V1 and V2?

A. $5x + 6y \leq 15,\ 2x + 3y \leq 7,\ x \geq 0,\ y \geq 0$

B. $5x + 6y \geq 15,\ 2x + 3y \geq 7,\ x \geq 0,\ y \geq 0$

C. $5x + 6y \leq 15,\ 6x + 3y \leq 7,\ x \geq 0,\ y \geq 0$

D. $5x + 2y \geq 15,\ 6x + 3y \geq 7,\ x \geq 0,\ y \geq 0$

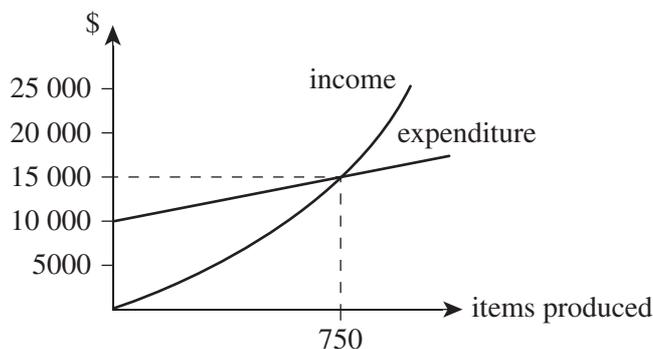E. $5x + 2y \geq 15,\ 2x + 3y \leq 7,\ x \geq 0,\ y \geq 0$

Question 7

The objective function (A) to determine the minimum total weight of mondo and dalyroot that Maurice must eat to achieve the daily intake of V1 and V2 is

A. $A = 5x + 2y$

B. $A = 6x + 3y$

C. $A = 11x + 5y$

D. $A = 15x + 7y$

E. $A = x + y$

Question 8

The graph below represents income and expenditure for the production and sales of a small plastic toy.

Which of the following statements is correct?

A.   Profit is $10 000.

B.   Profit is made when expenditure is greater than income.

C.   Profit is made when income exceeds $10 000.

D.   No profit is made if less than 750 items are produced.

E.   Breaking even requires that income exceeds expenditure.