

Student 3: Low Merit

NZQA Intended for teacher use only

Vitamin A  $2x + 4y + 5z = 1000$

Vitamin C  $3x + 7y + 10z = 1600$

Vitamin E  $5x + 9y + 14z = 2400$

$x = 300$

$y = 100$

$z = 0$

If Roger wants his rabbits daily vitamin intake to be 1000  $\mu\text{g}$  of Vitamin A, 1000 mg of Vitamin C and 2400 mg of Vitamin E, in order to meet these exact daily vitamin requirements Roger should feed his rabbits 300 g of Xena feed and 100 g of Yum feed.

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Vitamin A  $2x + 4y + 6z = 1000$

Vitamin C  $3x + 7y + 10z = 1600$

Vitamin E  $5x + 9y + 14z = 2400$

Vitamin A  $6x + 12y + 18z = 3000$

Vitamin C  $6x + 14y + 20z = 3200$

$2y + 2z = 200$

Vitamin A  $10x + 21y + 30z = 5000$

Vitamin E  $10x + 18y + 28z = 4800$

$2y + 2z = 200$

These equations are consistent. They are the same and give  $0 = 0$  and the change to 6  $\mu\text{g}$  gives multiple solutions.

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