

**Example 1**

Lois makes banana bread and nut bread to sell at a bazaar. A loaf of banana bread requires 2 cups of flour and 2 eggs. A loaf of nut bread takes 3 cups of flour and 1 egg. Lois has 12 cups of flour and 8 eggs on hand. She makes \$2 profit per loaf of banana bread and \$2 profit per loaf of nut bread. To maximize profits, how many loaves of each type should she bake?

Let  $x$  = banana bread and  $y$  = nut bread

Inequalities:

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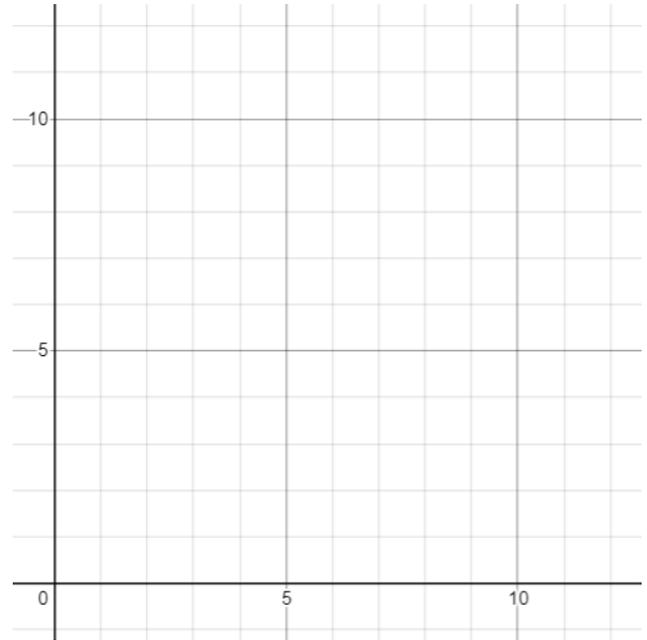
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Profit Function:

\_\_\_\_\_



Profit table:

Vertex	

Lois will maximize her profit if she makes \_\_\_\_\_ loaves of banana bread and \_\_\_\_\_ loaves of nut bread.

### Example 2

Juan makes two types of clocks to sell at local stores. It takes him 2 hours to assemble a pine clock, which requires 1 ounce of varnish. It takes 2 hours to assemble an oak clock, which takes 4 ounces of varnish. Juan has 16 ounces of varnish in stock and he can work 20 hours. If he makes \$3 profit on each pine clock and \$4 on each oak clock, how many of each type should he make to maximize his profits?

Let  $x$  = pine clocks and  $y$  = oak clocks

Inequalities:

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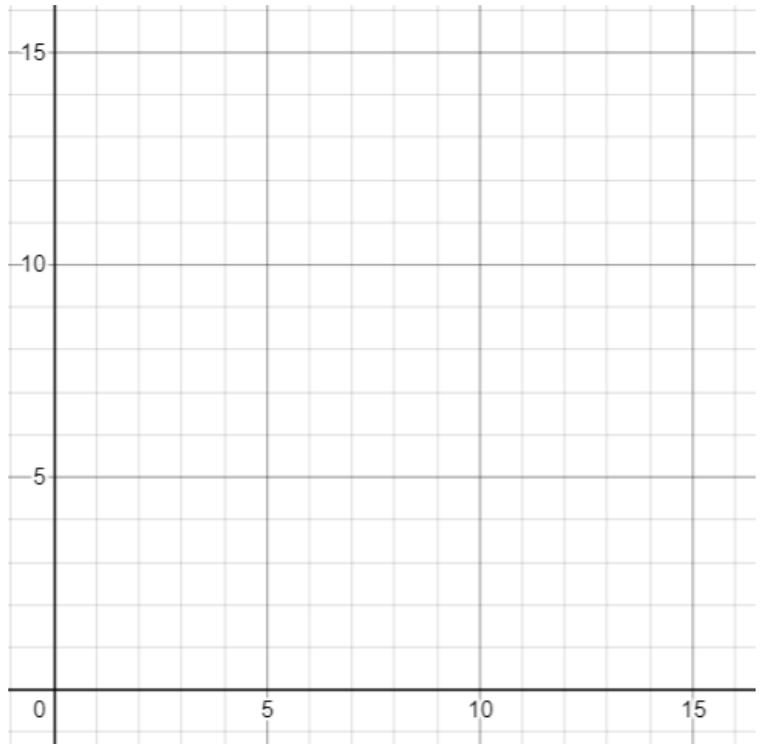
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Profit Function:

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Profit table:

Vertex	

Juan will maximize his profit if he makes \_\_\_\_\_ pine clocks and \_\_\_\_\_ oak clocks.