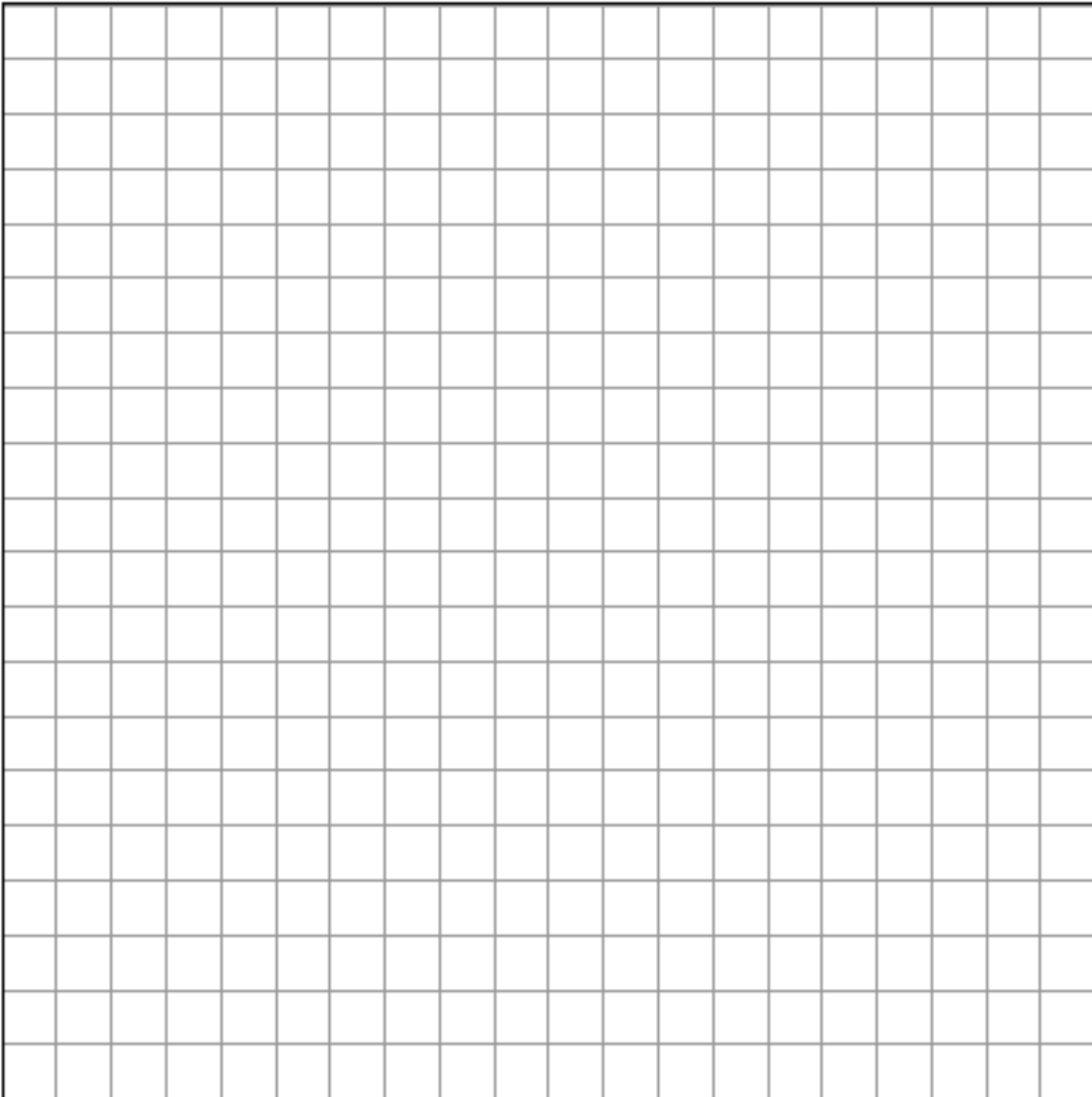


Graphing Quadratic Functions Using The Graphing Calculator

1. The price of a stock, $A(x)$, over a 12-month period decreased and then increased according to the equation $A(x) = 0.75x^2 - 6x + 20$, where x equals the number of months. The price of another stock, $B(x)$, increased according to the equation $B(x) = 2.75x + 1.50$ over the same 12-month period.
 - a. Graph and label both equations on the accompanying grid below.
 - b. State all prices, *to the nearest dollar*, when both stock values were the same.



2. The members of the Lincoln High School Prom Committee are trying to raise money for their senior prom. They plan to sell teddy bears. The senior advisor told them that the profit equation for their project is $y = -0.1x^2 + 9x - 50$, where x is the price at which the teddy bears will be sold and y is the profit, in dollars.

On the grid below, graph this relationship so that $0 \leq x \leq 90$ and $-50 \leq y \leq 160$.

How much profit can the committee expect to make if they sell the teddy bears for \$20 each?

What price should they charge for the teddy bears to make the maximum profit possible?

