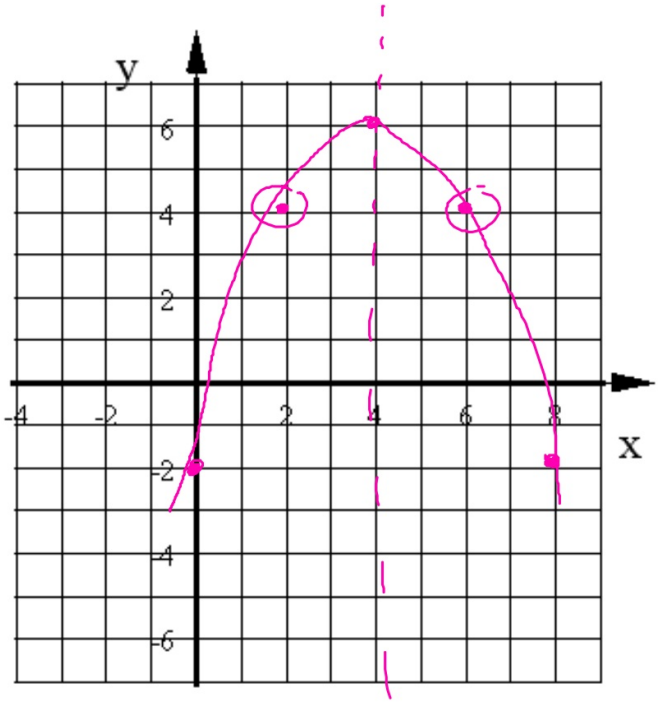
1. Graph this quadratic using 5 points. $f(x) = -\frac{1}{2}x^2 + 4x - 2$



$x = \frac{-4}{2(-\frac{1}{2})}$ LOS (1)

$x = 4, y = 6$

vertex $(4, 6)$ (2)

x	y
2	4
8	-2

2. A business wants to maximize their daily income. The following equation gives the Income (I) as a function of the number of hours (h) the store is open.
$I(h) = -3.5h^2 + 73.5h + 950$

a) Find the number of hours the store should be open in order to maximize their income.

10.5 hrs.

$\frac{-73.5}{2(-3.5)} = 10.5$

$x = h$

b) Find the maximum income.

$1335.90