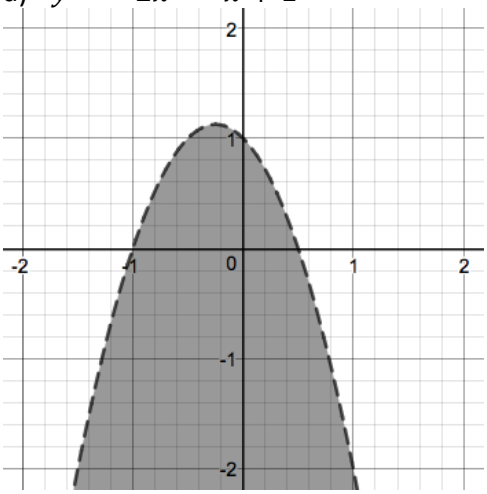
Learning Guide 16 - Test A

TOTAL: /14

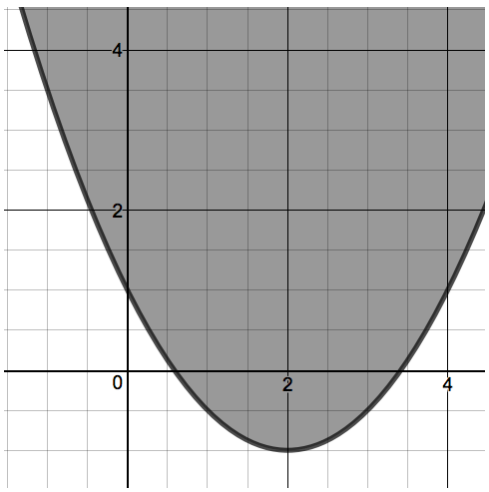
1) Write an inequality to describe each graph, given the function which defines the boundary *(2 marks)*

a) $y = -2x^2 - x + 1$



Inequality: _____

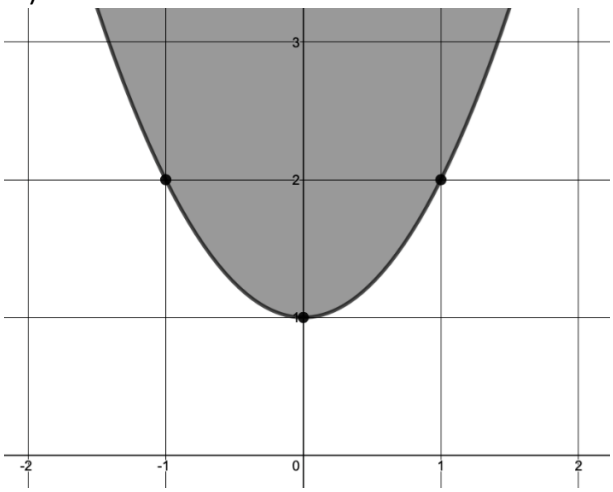
b) $y = \frac{1}{2}x^2 - x + 1$



Inequality: _____

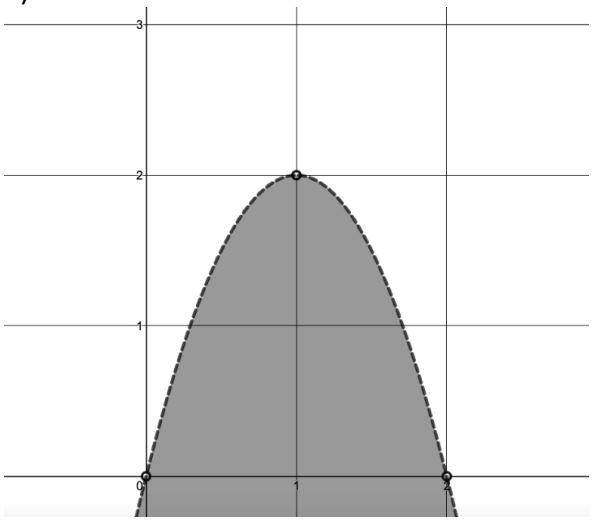
2) Write an inequality to describe each graph. *(4 marks)*

a)



Inequality: _____

b)



Inequality: _____

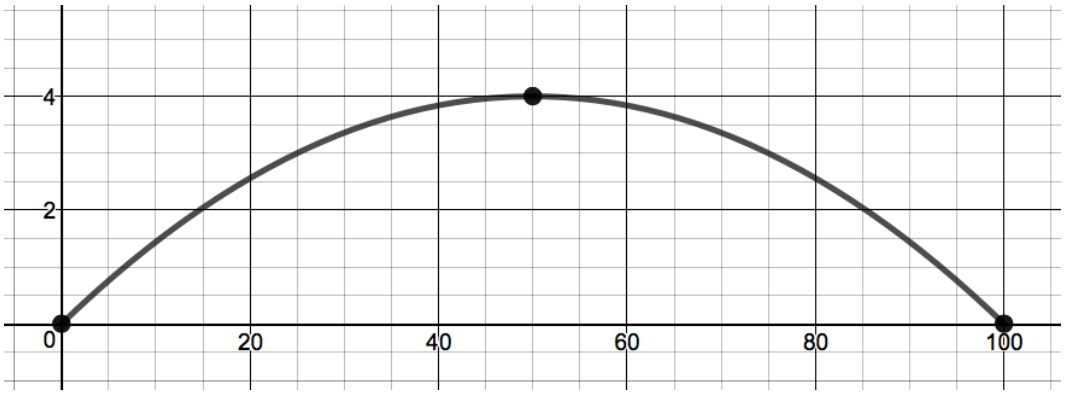
/6

3) As a fund-raiser, student council sells candy-grams. Last year, they sold 400 of them at a price of $4 each. After doing a bit of research, they determine that each $0.50 increase in price causes the sale of 20 fewer candy-grams.

a) Write an *equality* that models this situation after defining appropriate variables. *(2 marks)*

b) State an *inequality* to find all the possible prices that achieve their goal of raising $1800. *(2 marks)*

4) When a dam is built across a river, it is constructed the shape of a parabola. The ends of the dam are located at (0,0) and (100,0), with the apex of the dam at location (50,4) on the dam.



a) What is the quadratic function that models the parabolic arch of the dam? *(2 marks)*

b) Write the inequality for the region below the parabolic arch of the dam. *(2 marks)*