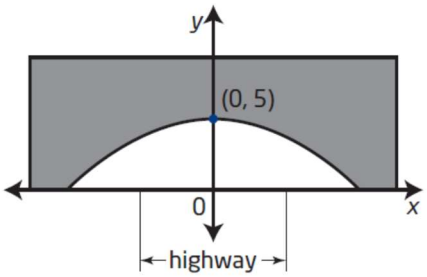
Name: _____ Date: _____

Learning Goal 9.2	Solving quadratic inequalities.

1. A highway goes under a bridge formed by a parabolic arch, as shown. The highest point of the arch is 5 m high. The road is 10 m wide, and the minimum height of the bridge over the road is 4 m. Determine the quadratic function that models the parabolic arch of the bridge.



2. To raise money, the student council sells candy – grams each year. From past experience, they expect to sell 400 candy – grams at a price of $\$4$ each. They have also learned from experience that each $\$0.50$ increase in the price causes a drop in sales of 20 candy – grams. Write an equation that models this situation. Suppose the student council needs revenue of at least $\$1\,800$. Solve an inequality to find all the possible prices that will achieve the fundraising goal.