

POW #19 - Algebra

Many or Money? [Problem #17070]

The Student Council at Rahkenrole High School is planning a concert. They've hired The Knox Mountain Boys, a popular local band, for \$340. A poll among the students has shown that if tickets cost \$5, 140 people will come to the concert. For every dollar the ticket price goes up, 10 fewer people will come, and for every dollar it goes down, 10 more people will come.



Members of the council have two different ideas on how the ticket price should be set. Help them solve both:

1. One group wants as many students as possible to enjoy the show. They want to just bring in enough money to pay the cost of the band. How much should they charge per ticket to do that? How many students would come to the show at that price?
2. The other group wants to raise money on the concert. How much should they charge per ticket to maximize the amount of money they raise? How much will they raise at that price?

Extra: Student Council member Steve was worried that the pricing model with a change of ten people for every change of one dollar in price wasn't very realistic, and several council members agreed. How could they change their pricing model and make it more realistic?