MATH 1201 Unit 3 Discussion Post

College Algebra (University of the People)

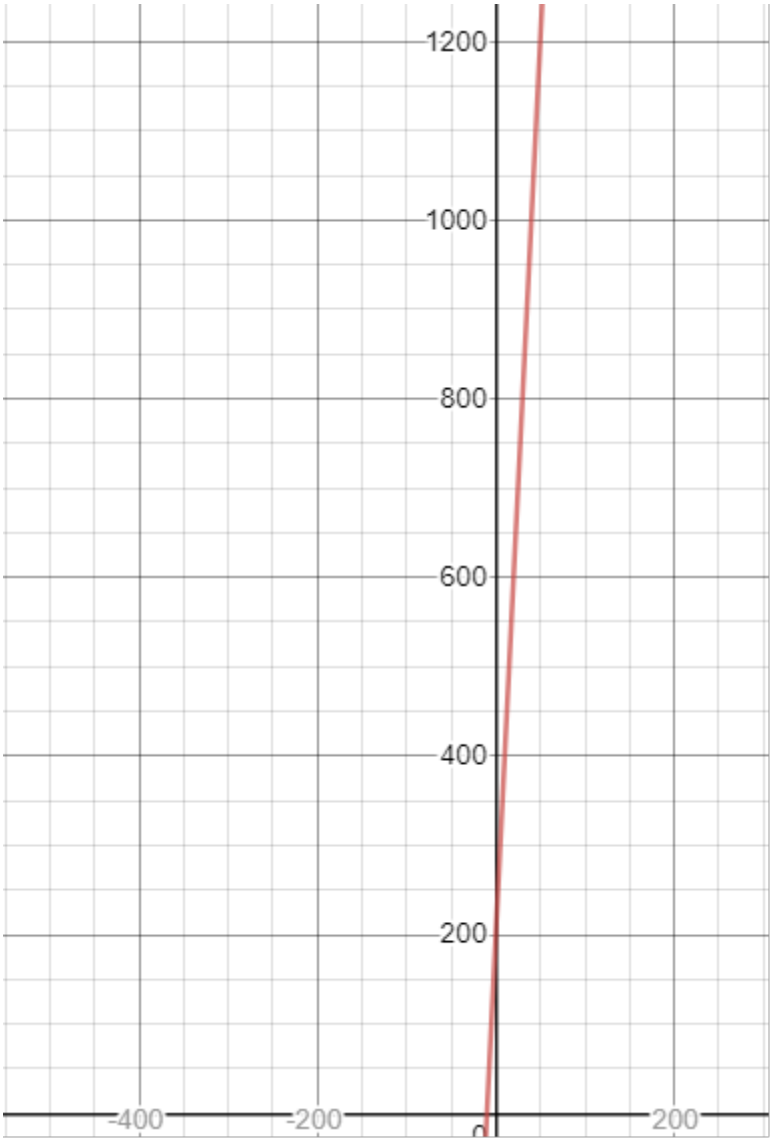
Dear all,

Polynomials are used in many sectors such as science, technology, business, and everyday life. For this discussion, I am going to choose the use of polynomial in business since that is the major I am pursuing here in UoPeople.

For instance, we can use polynomial in business accounting when counting costs or expenses such as the costs of producing a unit of product.

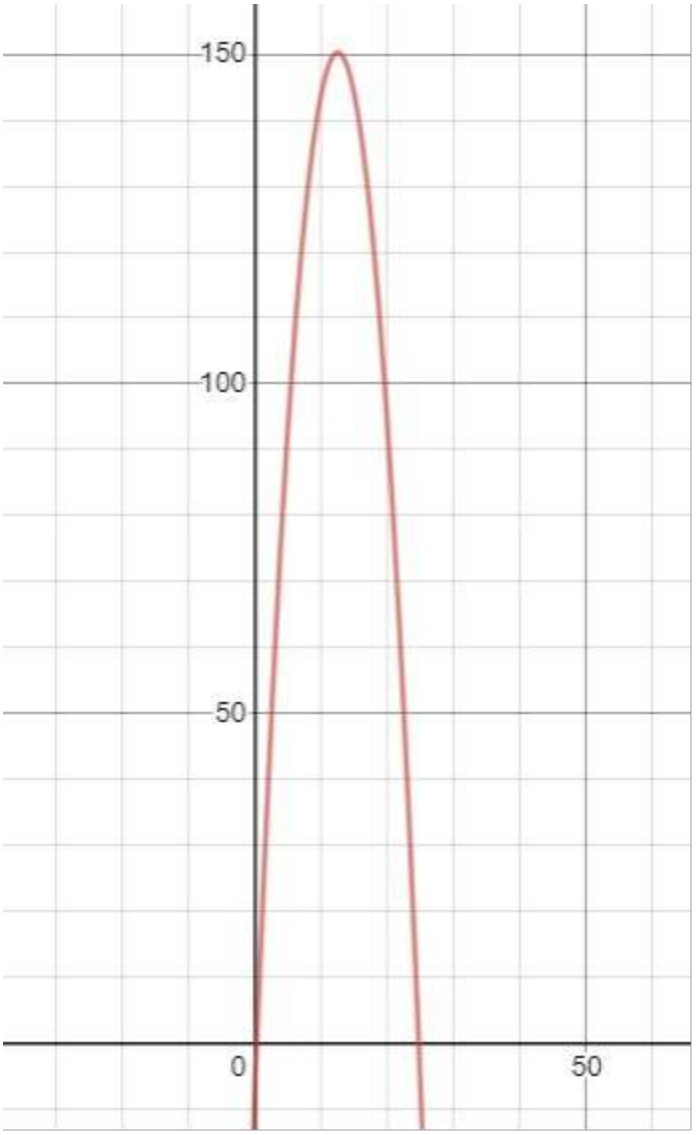
Let's say that the polynomial expression is f(x)=20x+200, where x is the number of products.

Therefore, if a business were to produce 10 units, the costs would be 20(10)+200 = $400. On the other hand, the fixed costs can be found out by substituting x=0. Therefore, 20(0) + 200 = $200.



In this case, the value of $x>0$ because one cannot produce a negative unit of products and the expenses cannot be a negative number.

Another use of polynomial is when counting the efficiency of employees' work. We can plot a graph in which the y-axis refers to the amount of good quality products produced by the employees whereas the x-axis refers to the time in which they have been working. The graph would look something like this:



The polynomial function for this is $f(x) = -x^2+25x-6$, where $x>0$.

What I am trying to express in this graph is that the more the employees work, the more good quality products they produced up until x= 12.5. Hence, after working 12.5 hours, the number of good quality products produced started to decrease which shows that working longer than 12.5 hours will decrease the efficiency of the work produced.