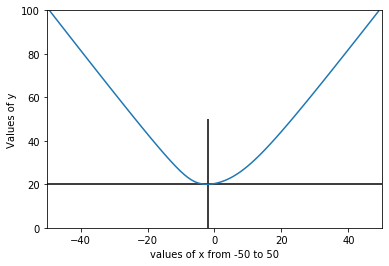
Question:

Over all real numbers, find the minimum value of a positive real number, y such that

y =

Answer:

Plotting the graph of y, yields the below



From the graph, the minimum value of y is 20.00459, approximately 20.

So, to calculate the value of x at y minimum, we can equate the y=20

Y = = 20

= 20 -

Squaring both sides

=

=

=

=

=

Dividing both sides by 8,

=

=

Squaring both sides,

=

= 4

= 4

= 0

= 0

Using the quadratic formula,

Where a=16, b =72, c= 81