

Mathematics Exercise 800-42-3574

assigned to: _____

on: _____

other info: _____

Synapse: If $a, b, c \in \mathbb{R}$ and $a \neq 0$,
then:

$$ax^2 + bx + c = 0 \Rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}.$$

Exercise: Suppose that $a, b, c \in \mathbb{R}$ and $a \neq 0$. Suppose that $f(x) = ax^2 + bx + c$.
Show that if $f(0) \neq 0$, then $\sqrt{b^2 - 4ac} \neq b$,
and $f\left(\frac{2c}{-b + \sqrt{b^2 - 4ac}}\right) = 0$.