

Math 2250 Quiz 3.5 (Practice)

Name _____ Section _____

Points will be deducted for untidy or disorganized answers

1. (2 points) For what values of a is the function f defined by

$$f(x) = \begin{cases} \frac{x^2 - a^2}{a - x} & \text{if } x \leq 4 \\ ax + 10 & \text{if } x > 4 \end{cases}$$

continuous everywhere?

2. (3 points) State the *Intermediate Value Theorem* and use it to show that the equation

$$x^5 + 4x^2 - 7x + 14 = 0$$

has at least one real solution. What integer is this solution closest to?