

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

## Quiz 9

**Question 1.** (6 marks) Find the domain, intercepts and any vertical and horizontal asymptotes of the function (state which is which):

$$f(x) = \frac{x^2 - 2}{2x^2 - 8}$$

Make sure you show your work.

**Question 2.** (4 marks) A stone is thrown from the roof of an 80ft building and lands five seconds later. The height (in feet) of the stone at any time  $t$  (in seconds), measured from the ground, is given by  $h(t) = -16t^2 + 64t + 80$ . what is the maximum height the stone reaches? (Justify your answer).