AFM Problem Set 2 NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Show All Work for Credit!**

Graph each of the following. (**4 points each**)

1.  2.  3. 

   

4.  5.  6. 

   

7. Find the domain for  in Interval Notation:(4 pts) \_\_\_\_\_\_\_\_\_\_\_\_

8. For the following function: . Find: (3 pts each)

1. Hole(s): \_\_\_\_\_\_\_\_\_\_\_\_ b. Vertical Asymptote: \_\_\_\_\_\_\_\_\_\_\_\_

c. Horizontal Asymptote: \_\_\_\_\_\_\_\_\_\_\_\_ d. Domain: \_\_\_\_\_\_\_\_\_\_\_\_

e. x - intercept: \_\_\_\_\_\_\_\_\_\_\_\_ f. y - intercept: \_\_\_\_\_\_\_\_\_\_\_\_

9. Find the following for . (4 pts each)

\_\_\_\_\_\_\_\_ # of positive real zeros \_\_\_\_\_\_\_\_\_ # of negative real zeros \_\_\_\_\_\_\_\_\_# of imaginary zeros

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ State all possible Rational Roots. (2 pts)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Find all of the roots. (8 pts)

10. Solve the following inequality . \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (6 pts.)

 Show work. Answer has to be in Interval Notation. Use sign chart after finding roots.

11. Determine  so that  has a remainder of -10 in . \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(4 pts)



12. Sketch . (4 pts.ea)

Degree: \_\_\_\_\_\_\_\_\_\_\_\_

End behavior: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Zeros: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

y- int: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_