Mrs.Volynskaya Precalculus HONORS Chapter 2 Test Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE\_\_\_\_

**SHOW ALL WORK Neat and Clear pls! BOX YOUR ANSWERS!**

1. Write an equation in **standard** form of degree 2 whose zeros include 7 – 4i.
2. A)**Find all the zeros** of f(x) = x3 – 2x2 + x + 18. The work must include synthetic division as well as any factoring or use of the quadratic formula. Any irrational zeros must be left in radical form.

B)Write the final answer in linear **factorization form.**

1. Find the zeros, state their multiplicity, and whether the graph crosses or touches the x-axis. 



|  |  |  |
| --- | --- | --- |
| Zero | Multiplicity | Does the graph cross the x-axis at this zero?  |
|   |  |  |

What is the degree of the polynomial?

Sketch a graph of the polynomial.

1. Solve the following inequality using a **sign chart**.



1. Divide f(x) by d(x) and write a summary statement in fractional form

f(x) = 5x4 + 3x2 – 12

d(x) = x2 – 2

1. Identify all the asymptotes and intercepts of the function 

Vert. Asym.: x-intercepts:

Horiz. Asym.: y-intercepts:

1. ***Write a formula for the linear function whose graph is shown:***

