Pre-Calculus Honors Fundamental Theorem of Algebra and Complex Zeros Sections 2.4 & 2.5

1. List the possible *rational*  roots of $f\left(x\right)=x^{5}-x^{4}+2x+3$

1. List the possible *rational* roots of $f\left(x\right)=2x^{5}-x^{4}+2x+3$
2. Determine the possible number of positive and negative real zeros of the given function.

 a. $f\left(x\right)=5x^{4}+2x^{2}+2x-3$

 b. $f\left(x\right)=x^{5}+x^{3}+2x+3$

1. Find all solutions over the complex system.
2. $f\left(x\right)= x^{4}-3x^{2}-4$
3. $f\left(x\right)= x^{3}+8x^{2}+11x-20$
4. $f\left(x\right)= 4x^{4}+15x^{2}-4$
5. $f\left(x\right)= x^{4}-x^{3}-6x^{2}+4x+8$
6. Find a polynomial equation with the following roots:
7. $4, \sqrt{3}$
8. -3, $-5i$
9. $5+i\sqrt{2}$