MATH 120A

Quiz 15

Name: ANSWER KEY Score: _____

For $f(x) = x^5+x^4-6x^3-14x^2-11x-3$ $\quad f(-x) = -x^5+x^4+6x^3-14x^2+11x-3$

1 change of sign; 4 changes of sign

a. (6) use Descartes' rule of signs to determine the possible numbers of positive, negative, and non-real complex roots;

Deg	5	5	5
Pos	1	1	1
Neg	4	2	0
Cx	0	2	4

b. (4) find the best upper bound and best lower bound for the real roots.

	1	1	−6	−14	−11	−3
3	1	4	6	4	1	0
−3	1	−2	0	−14	31	−96

∴ 3 is upper bound & root

∴ −3 is lower bound.