

III. Remainder Theorem (p.201):

the remainder of “ $P(\mathbf{x}) \div (\mathbf{x} - \mathbf{c})$ ” is $P(\mathbf{c})$

IV. Factor Theorem (p.205):

$P(\mathbf{c}) = 0 \Leftrightarrow (\mathbf{x} - \mathbf{c})$ is a “factor” of $P(\mathbf{x})$

VI. Examples (p.210): Exercises #32,34

VII. Rational Root Theorem (p.206):

If $P(\mathbf{x}) = a_n \mathbf{x}^n + a_{n-1} \mathbf{x}^{n-1} + \dots + a_2 \mathbf{x}^2 + a_1 \mathbf{x} + a_0$

and $P(\mathbf{c}) = 0$ where $\mathbf{c} = p/q$ (*i.e.*, rational #),

then p is a factor of a_0 & q is a factor of a_n ;

Note: if $a_n = 1$, then $q = 1$

or “ \mathbf{c} ” must be a factor of a_0 ...

VIII. Examples (p.210): Exercises #52,54

HW: pp.210-211 / Exercises #17,31,33,53,59,61,
73,75,79,81