## Pre-Calculus 12

## Ch. 3 - POLYNOMIALS

| By the end of the unit, it is expected that you will:  |  | COK OVER  | WHAT22 |
|--|--|-----------|--------|
| Demonstrate an understanding of factoring polynomials of degree greater than 2 (limited to polynomials of degree $\leq 5$ with integral coefficients). |  | 200110121 |        |
| OUESTIONS:   |  |           |        |
| Factor the following algebraically $x^4 + x^3 - 13x^2 - 1x + 12$   |  |           |        |
|  |  |           |        |
|  |  |           |        |
|  |  |           |        |
| Cranh and analyza polynomial functions (limited to polynomial functions  |  |           |        |
| of degree $\leq 5$ ).  |  |           |        |
| OUESTIONS:   |  |           |        |
| Determine the zeros, the y-intercept and direction it ends and sketch the  |  |           |        |
| following: $-x^3 - 2x^2 + 25x + 50$  |  |           |        |
|  |  |           |        |
|  |  |           |        |
|  |  |           |        |
| Divide polynomials using long division and synthetic division.   |  |           |        |
| Ouestion:  |  |           |        |
| Divide $3x^3 - 2x^2 + 1$ by x - 2 using  |  |           |        |
| a) Long division   |  |           |        |
|  |  |           |        |
|  |  |           |        |
|  |  |           |        |
|  |  |           |        |
| b) Synthetic division  |  |           |        |
|  |  |           |        |
|  |  |           |        |
|  |  |           |        |
|  |  |           |        |
|  |  |           |        |
|  |  |           |        |

| Use the Remainder Theorem and Factor Theorem effectively.                  |  |  |
|--|--|--|
| Questions:<br>What is the remainder when $x^{23} - 1$ is divided by x + 1? |  |  |
| Determine if (x+2) is a factor of $x^4 + x^3 - 13x^2 - 1x + 12$ .          |  |  |
|  |  |  |

## Workbook Stuff

| Section and page<br>number | Mandatory questions                                      |
|----------------------------|--|
| 3.1 p. 119                 | 1 in class, 2-6 all                                      |
| day 1                      |  |
| 3.1 p. 121                 | 7,8 all and 9(omit hij)                                  |
| day 2                      |  |
| 3.2 p. 127                 | 1-3, 4aceghij, 7, 8                                      |
| 3.3 p. 135                 | 1 all  |
| (long division)            |  |
| 3.3 p. 136                 | 2acdgk, 3abch, (4a in class pre 2.4)                     |
| (synthetic division)       |  |
| 3.4 p. 143                 | 1-3  |
| 3.4 p. 144                 | 4, 5f,h,I and graph (no rational root theorem)           |
| Review                     | Content organizer / Pre Test / Review in Text            |
| p. 150                     | 1-3, 5-8, 10, 12, 15, 17-19, 21-25, 27, 28, 30-33, 36-41 |