

Precalculus Learning Log Chapter 2 Part 1

Name _____

WDYLT? Part of each assignment in Precalculus is your response to these 3 questions:

1. **What did you learn today that was new?** 2. **How does what you learned relate to what you previously knew?** 3. **What good is this new idea?**

You may answer these questions at any time during your assignment, but your responses should always appear as questions a, b, and c at the beginning of each assignment.

| X | | <u>Big Idea:</u> Polynomials | <u>Enduring Understanding:</u> Zeros of a function, x -intercepts on a graph, solutions to an equation, and factors of an algebraic expression are all related to each other. | <u>Enduring Question:</u> How do I find the zeroes of a polynomial? What is the fundamental theorem of algebra? | |
|---------|--------------|-------------------------------|---|--|--|
| Day | Title | Concept | LEARNING TARGETS (What I should understand, know, and be able to do.) | How am I doing? 3 = I got it right! 2 = I knew how but I made a small mistake. 1 = I tried but I didn't know what to do. 0 = I had no clue/I didn't try. | Assessments/Learning Activities |
| 1 | 2.2 | Finding Zeroes of Polynomials | a) I can describe the end behavior of a polynomial. | | <input type="checkbox"/> WDYLT? <input type="checkbox"/> 2.2: 2-8 evens, 10a, 11c, 18, 20, 21, 26, 30, 31, 43c, 44b <input type="checkbox"/> 2.8: 13, 14abc <input type="checkbox"/> 1.6: 27b, 56 & 59 (find inverse only) <input type="checkbox"/> P. 82: 17, 65, 76ab, 81c, 87, 90 |
| | | | b) I know that finding the zeros of polynomial functions is one of the most important problems in algebra. | | |
| | | | c) I can find the zeros of a linear or quadratic function. | | |
| | | | d) I can use the zeros of a function to help sketch the graph of the function. | | |
| 2 | 2.3 Day 1 | Rational Zero Test | a) I can do synthetic and long division of polynomials. | | <input type="checkbox"/> WDYLT? <input type="checkbox"/> 2.3: 7, 8, 13, 16, 18, 21, 32ab, 36, 37, 39bcd, 40bcd, 42bcd <input type="checkbox"/> 2.2: 10b, 12d, 17, 24, 40c, 56 <input type="checkbox"/> 2.8: 21 <input type="checkbox"/> P. 83: 39, 50, 57 |
| | | | b) I can use synthetic division to find factors and zeroes of polynomials | | |
| | | | c) I can use the remainder theorem to evaluate functions. | | |
| Quiz 2A | | Score: ____ Possible: ____ | What do I need help with? | What's my plan? | What did I do? |
| 3 | 2.3 Day 2 | Rational Zero Test | a) I can list the possible rational zeros of a polynomial. | | <input type="checkbox"/> WDYLT? <input type="checkbox"/> 2.3: 45, 46, 47, 50, 51, 52, 54, 56a, 62bcd, 63bcd, 64bcd <input type="checkbox"/> 2.2: 22, 38c, 57 <input type="checkbox"/> P. 83: 75, 84, 92 |
| | | | b) I can use my list of possible rational zeros and technology to limit the choices of zeroes, and try to reduce the polynomial down to a quadratic function with synthetic division. | | |

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|---------------|-------------------------------|---|---|-----------------|--|
| 4 | 2.4 | Operations on Complex Numbers | a) I can add, subtract, multiply and divide complex numbers. | | <input type="checkbox"/> WDYLT? <input type="checkbox"/> 2.4: 15, 16, 17, 20, 21, 25, 30, 32, 35, 38, 46, 48, 50, 60, 68 <input type="checkbox"/> 2.3 3, 14, 20, 34a, 35, 43bcd <input type="checkbox"/> 2.2: 22, 38c, 57 <input type="checkbox"/> P. 83: 40, 49, 55, 60, 86, 108 |
| | | | b) I can graph complex numbers on the complex plane. | | |
| | | | c) I know that solutions to polynomials can be imaginary numbers. | | |
| 5 | 2.5 | Fundamental Theorem of Algebra, Using Zeroes to graph Polynomials | a) I understand that the fundamental theorem of algebra implies that the degree of a polynomial tells me the number of complex zeroes and linear factors of the polynomial. | | <input type="checkbox"/> WDYLT? <input type="checkbox"/> 2.5: 2, 4, 8, 9, 15, 20, 24, 26, 32abc, 34a, 35, 46, 43 & 44 (find the zeros only) <input type="checkbox"/> 2.4: 18, 19, 28, 29, 34, 42, 47 <input type="checkbox"/> 2.3: 22, 38, 41 <input type="checkbox"/> P. 83: 37bc, 43, 80, 94, 107, 111cd |
| | | | b) I can approximate zeroes of polynomials that don't have rational zeroes and don't reduce to quadratic functions with technology. | | |
| | | | c) I can use the zeroes of the polynomial, plotting points, end behavior, and relative maximum and minimum to graph polynomials. | | |
| | | | d) I know how to step through the strategies of finding the zeroes of polynomials. | | |
| Quiz 2B | Score: ____ Possible: ____ | What do I need help with? | | What's my plan? | What did I do? |
| Test 2 Part 1 | Score: ____ Possible: ____ | What do I need help with? | | What's my plan? | What did I do? |