***Flashcard Project***

General: What is a precalculus flashcard? A precalculus flashcard is an index card that has a question on one side and an answer to that question on the other side. The answer is an **explanation** with an **example**. You will make precalculus flashcards for chapters P, 1,2,3 and 4.

Instructions: That sounds like a lot of work… What do I have to do? 1.) **Complete the table** below. This is like a rough draft (**Due January 7, 2013**) 2.) **Make flashcards**. These should be index cards. I recommend the 3” by 5” ones… they have enough space to fit the explanation and the example. (**Due January 14th, 2013)**

Grading: How will my work be assessed?

Rough draft: (complete, on time) = 50 points.

Final Flashcard: Each card 5 points (Explanation(2), Example (2), Neatness(1) \*54 cards = 370.

Flashcards held together with a flashcard ring = 20 points.

Total points possible: 340/340.

Other: Each flashcard will probably take five to ten minutes to prepare and make. That means that this is a ten to twenty hour project. That means that you should spend at least twenty minutes a day everyday on this. If you don’t space it out, you will be stressed as the deadline approaches. If you need more space for the rough draft, then use a separate sheet of paper. I will post a digital version to the website as well as email this to you. **Do these well, you may be able to use them on your final exam…**

|  |  |  |
| --- | --- | --- |
| Question…side 1 | Page (the page in your book to find the answer) | Answer (Explanation, Example)…side 2 |
| What is a relation? How is this different than a function? |  |  |
| What is an even function? How do you know if a function is even? |  |  |
| What is an odd function? How do you know if a function is odd? |  |  |
| What is a difference quotient? |  |  |
| What is a horizontal shift? |  |  |
| What is a vertical shift? |  |  |
| What are x- axis and y-axis reflections? |  |  |
| What is vertical and horizontal stretching? |  |  |
| How do you perform multiple transformations? |  |  |
| What is the inverse of a function? How do you find it? |  |  |
| What are complex numbers? How do you operate on them? |  |  |
| What is standard form of a quadratic equation? How do you graph using standard form? |  |  |
| How do you find the maximum or minimum of a quadratic equation in ax2+bx+c=f(x). |  |  |
| How do you solve a maximizing area problem? |  |  |
| What is a polynomial? |  |  |
| How do you determine the end behavior of a polynomial? |  |  |
| What is a zero of a polynomial function? |  |  |
| What is a turning point of a polynomial? How do you figure out how many turning points a function has? |  |  |
| What is the intermediate value theorem? Why is it useful? |  |  |
| How do you graph a polynomial function? | 295 |  |
| Give an extra example of graphing a polynomial: |  |  |
| How do you do long division of polynomials? |  |  |
| How do you do synthetic division? |  |  |
| What is the remainder theorem? |  |  |
| What is the factor theorem? |  |  |
| What is the rational zero Theorem? What does it allow you to find? |  |  |
| How do you test possible roots? What does this work? |  |  |
| How many roots does a polynomial have? | 318 |  |
| When a polynomial has a complex root, what do you know about another of the roots? | 318 |  |
| What is the fundamental theorem of algebra? |  |  |
| What is the linear factorization theorem? |  |  |
| What is Descartes rule of sign? |  |  |
| What is a rational function? |  |  |
| How do you graph a rational function? |  |  |
| Give another example of a rational function graph? |  |  |
| What is an exponential function? Include a graph of one. |  |  |
| What is a logarithmic function? How does this relate to exponential functions? |  |  |
| Graph a logarithmic function. What is the domain? Why? |  |  |
| What is the power rule for exponents? What is the power rule for logarithms? |  |  |
| What is the quotient rule for exponents? What is the quotient rule for logarithms? |  |  |
| What is the change of base formula for logarithms? |  |  |
| How do you solve a logarithmic equation? |  |  |
| Give another example of a logarithmic equation? |  |  |
| How do you convert from radians to degrees? From degrees to radians? |  |  |
| Why is a radian called a radian? | 452 |  |
| How do you define the six trig functions using the unit circle? |  |  |
| How do you define the six trig functions using a right triangle? |  |  |
| What are the quotient identities? |  |  |
| What are the reciprocal identities? |  |  |
| What are the Pythagorean identities? |  |  |
| What is a coterminal angle? How can we use it? |  |  |
| What are the cofunction identities? |  |  |