**PRE-CALCULUS 11 FINAL EXAM REVIEW CHART**

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| **I can** | Examples, textbook pages, notes. | I got this ☺ | I need to review this !!! |
|  | **Quadratic Function** |  |  |
| … define a function and give graphical examples of a linear, quadratic and other functions. |  |  |  |
| … explain the differences and similarities between a function and a relation. |  |  |  |
| … give graphical examples of a relation that is not a function and justify why it fits the description. |  |  |  |
| … determine the domain of a function or a relation. |  |  |  |
| … determine the range of a function or a relations. |  |  |  |
| … describe the domain and range using a variety of methods: set notation, interval notation, inequality statement, or a sentence. |  |  |  |
| … carry out the vertical line test. |  |  |  |
| … describe a quadratic function given its graph: domain, range, equation of the line of symmetry, opening, vertex, transformations. |  |  |  |
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| … graph a quadratic function given its equation in vertex form. |  |  |  |
| … graph a quadratic function given its equation in standard form (**a.k.a. Complete the square first).** |  |  |  |
| … describe all transformations of a quadratic function given its equation. |  |  |  |
| … describe all transformations of a quadratic function given its graph (R in x-axis, VSC, VSE, HT, VT). |  |  |  |
| … complete the square given an equation with a leading coefficient of positive one. |  |  |  |
| … complete the square given an equation with a leading coefficient different from positive one. |  |  |  |
| … determine whether a function is quadratic. |  |  |  |
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| … determine the **exact** coordinates of the y-intercept given a graph or an equation. |  |  |  |
| … determine the **exact** coordinates of the x-intercepts given a graph or an equation. |  |  |  |
| … graph a parabola given its description in words. |  |  |  |
| … explain what the terms: congruent and coinciding. |  |  |  |
| … explain the relationship between the roots, zeros, x-intercepts and solutions. |  |  |  |
|  | **Quadratic Equations** |  |  |
| … solve a quadratic equation using the quadratic formula. |  |  |  |
| … solve a quadratic equation using the square root principle. |  |  |  |
| … solve a quadratic equation using factoring. |  |  |  |
| … solve a quadratic equation by graphing. |  |  |  |
| … calculate the discriminant. |  |  |  |
| … determine the nature of the solution by calculating the discriminant. |  |  |  |
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| … algebraically determine whether a given point is a solution to a quadratic equation. |  |  |  |
| … determine whether a given point is a solution to a quadratic equation given a graph. |  |  |  |
| … solve word problems involving quadratic equations such as optimization problems. |  |  |  |
|  | **Inequalities and Systems of equations** |  |  |
| … graph a solution to a linear inequality in one variable using a number line. |  |  |  |
| … graph a solution to a linear inequality in two variables and describe the solution region in words. |  |  |  |
| … solve a quadratic inequality using cases or graphs. |  |  |  |
| … graph a solution to a quadratic inequality in one variable using a number line. |  |  |  |
| … graph a solution to a quadratic inequality in two variables and describe the solution region in words. |  |  |  |
| … explain what a solid and a dashed line of a solution boundary stands for. |  |  |  |
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| …explain the difference between a strict inequality and a non-strict inequality. |  |  |  |
| --- solve a linear-quadratic system of equations by substitution. |  |  |  |
| … determine whether a given point is a solution to a system of equations. |  |  |  |
| … solve a quadratic-quadratic system of equations by substitution. |  |  |  |
| --- solve a linear-quadratic system of equations by graphing. |  |  |  |
| --- solve a quadratic-quadratic system of equations by graphing. |  |  |  |
| … solve a linear-linear system of inequalities (**L4).** |  |  |  |
| …solve a linear-quadratic system of inequalities (**L4).** |  |  |  |
| … solve a quadratic-quadratic system of inequalities (**L4).** |  |  |  |
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|  | **Trigonometry** |  |  |
| … define an angle. |  |  |  |
| … draw a labeled diagram of an angle in standard position given its degree measure. |  |  |  |
| … determine whether two given angles are coterminal. |  |  |  |
| … find all coterminal angles in a restricted domain given an angle. |  |  |  |
| … define a reference angle and labeled in a diagram. |  |  |  |
| … calculate the degree measure of a reference angle to any angle. |  |  |  |
| … explain the difference between the positive and negative angles. |  |  |  |
| …use special triangles to determine the **exact** values of the basic trigonometric ratios of all angles that have a reference angel of . |  |  |  |
| … determine the **exact**  values of the basic trigonometric ratios of . |  |  |  |
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| … determine the value of the basic trigonometric ratios given the coordinates of a point on the terminal arm. |  |  |  |
| … apply the Pythagorean Theorem. |  |  |  |
| … apply SOH, CAH, TOA to any right-angled triangle. |  |  |  |
| … determine the value of any two basic trigonometric ratio given the exact value of the third ratio. |  |  |  |
| … apply the Sine Law to find a side length. |  |  |  |
| … apply the Sine Law to find an angle. |  |  |  |
| … apply the Cosine Law to find a side length. |  |  |  |
| … apply the Cosine Law to find an angle. |  |  |  |
| … apply the Sine Law to solve word problems. |  |  |  |
| … apply the Cosine Law to solve word problems. |  |  |  |
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|  | **Radical Expressions and Equations** |  |  |
| … name and label all parts of a radical expression (index, radical symbol, radicand). |  |  |  |
| … convert a mixed radical to an entire radical. |  |  |  |
| … convert an entire radical to a mixed radical. |  |  |  |
| … determine when a radical is defined given it has an even index. |  |  |  |
| … determine when a radical is defined given it has an odd index. |  |  |  |
| … determine when a radical is **undefined** given it has an even index. |  |  |  |
| … determine when a radical is **un**defined given it has an odd index. |  |  |  |
| … add and subtract radicals. |  |  |  |
| … multiply radicals. |  |  |  |
| … express a radical and a power with a rational exponent (Flower=power rule). |  |  |  |
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| … determine the NPVs = values a variable cannot be = values that make a radical undefined given the index is even. |  |  |  |
| … determine the NPVs = values a variable cannot be = values that make a radical undefined given the index is odd. |  |  |  |
| … determine the restrictions= rules a variable has to follow so the radical is defined given the index is odd. |  |  |  |
| … determine the restrictions= rules a variable has to follow so the radical is defined given the index is even. |  |  |  |
| … solve a radical equation of the form: |  |  |  |
| … solve a radical equation of the form: |  |  |  |
| … solve a radical equation of the form: |  |  |  |
| … solve, check (LS=RS), verify. |  |  |  |
| … determine whether a proposed solution is extraneous or true. |  |  |  |
| … rationalize a denominator. |  |  |  |
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|  | **Rational Expressions** |  |  |
| … determine when a rational expression is defined (denominator is different from zero). |  |  |  |
| … … determine when a rational expression is **un**defined (denominator is equal to zero). |  |  |  |
| …factor by GCF |  |  |  |
| … factor the difference of squares. |  |  |  |
| … factor by inspection. |  |  |  |
| … factor by grouping. |  |  |  |
| … factor by combining GCF and DOS or GCF and inspection. |  |  |  |
| … simplify a rational expression . |  |  |  |
| … add and subtract rational expressions. |  |  |  |
| … multiply and divide rational expressions. |  |  |  |
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| … solve a rational equation. |  |  |  |
| … factor, simplify, solve, check and verify. |  |  |  |
| … determine whether a proposed solution is an extraneous solution or a true solution. |  |  |  |
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