**Hon. Math 3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unit 1 Review**

**Classify the system of equations as consistent, dependent, or inconsistent. If it is consistent, state the ordered pair that is the solution.**

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| 1. Solve for ***y*.** | 1. A feasible region has vertices at (,2), (1, ), (-4, 4), and (-3, 0). If the objective function is , which vertex gives the maximum value? |
| 1. A collection of 54 nickels and dimes is worth $4.30. How many nickels are there? **Use a system of equations.** | 1. Your club is baking blue cakes and white cakes for a bake sale. They can make at most 35 cakes. They cannot make more than 15 blue cakes. Write a system of inequalities that would model this problem.   Let x = number of blue cakes  Let y = number of white cakes |
| 1. You save $5 dollars of your weekly allowance so you may purchase a new Xbox One game.   (**Answer all questions – NOT Multiple Choice)**   1. How much will you have saved over the first 3 weeks, if you started with $5? **(2 pts)** 2. Is this an arithmetic sequence? Explain your reasoning. **(2 pts)** 3. Find an explicit formula for this sequence and a55. **(3 pts)** 4. What is the recursive formula for this sequence? **(2 pts)** | |

**Hon. Math 3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unit 2 and 3 Review**

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| 1. Graph .   Opens: up or down  Axis of Symmetry:  *x* =  Vertex:  ( , )    Circle: min or max | 1. Solve using factoring. 2. x3 + 9x2 + 14x = 0 3. 24r3 - 64r2 - 21r + 56 = 0 | |
| 1. Solve using any method except graphing. 2. = 0      1. 8x2 + 6x = -5 2. 9x2 -11 = 6x | 1. Simplify. 2. 2 | |
| 1. Give an example of each type of number. The number you pick cannot fit into the previous category! 2. Natural 3. Whole 4. Integer 5. Rational 6. Irrational | 1. Find the zeros of the functions. 2. 3x2 – 4x = -1 | |
| 1. Divide using long division or synthetic division. | | 1. Suppose . The reminder of the division of p(x) by (x + 1) is -8. What is the remainder of the division of p(x) by (x - 1)? |
| |  |  |  | | --- | --- | --- | | **Function** | **State the # of each type of zero (real, imaginary,**  **rational, etc.)** | **List all zeros (exact values)** | | 9. 2x4 - 3x2 = 9 |  |  | | 10. |  |  | | | 1. Explain how to determine the right and left end behavior of  without using a calculator. |

**Hon. Math 3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Units 4 & 5 Review**

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| 1. Simplify | 1. Simplify |
| 1. If y varies jointly as x and z and y = 30 when x = 3 and z =5, find y when x = 5 and z = 8 | 1. Find |
| 1. Simplify and state any restrictions . | 1. Simplify |
| 1. Solve . Show ALL steps. | 1. Simplify.   Are there any holes or asymptotes? |
| 1. Solve the inequality: | |

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| 10. . H.A: \_\_\_\_\_\_\_\_\_\_\_\_\_\_  V.A: \_\_\_\_\_\_\_\_\_\_\_\_\_\_    Holes: \_\_\_\_\_\_\_\_\_\_\_\_\_  Domain: \_\_\_\_\_\_\_\_\_\_\_  Range: \_\_\_\_\_\_\_\_\_\_\_\_ | 1. Graph the piecewise function given by   f(x) =. What is f(1) + 3f(5) – 2f(2.5)?  http://mathbits.com/MathBits/StudentResources/GraphPaper/14by14%20axes.jpg |
|  | 1. Solve the system of equations. |
| 1. Suppose you deposit $2500 in an account that pays 3.5% interest compounded quarterly. How long will it take for the account to reach $6000? | 1. What interest rate is required for an investment with continuously compounded interest to double in 10 years? (Hint: Make up your own principal!) |
| 1. Find the inverse function of the equation given. Then, graph both functions and state domain, range, and asymptote for each.      |  |  |  |  | | --- | --- | --- | --- | |  | **Domain** | **Range** | **Asymptote** | |  |  |  |  | |  |  |  |  | | |
| 1. Find the solution to the equation (Hint: if you get stuck, remember what I said to do when you can’t solve by hand!) | 1. Samantha invested $10,000 in each of two different financial plans in 2013. When does Plan N have a higher value than Plan M?  * Plan M: a rate of 7.5%, compounded continuously. * Plan N: The value is determined by , where x is the number of years after 2013. |

**Hon. Math 3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unit 6 Review**

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| Lines 8. Lines *a* and *b* in the figure below are parallel.      W What is the measure of in degrees? | 9. 11. 9.      Which lines are definitely parallel? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Justification: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. Find the values of f and g. | 11. Find the values of x and y in parallelogram ABCD, if C = DC = 6x + y, BC = 3x + 2y, AB = 25, and AD = 14. |
| 12 12. Given points A, B, and C are collinear with point B b between points A and C, fill in the blanks to justify solving for x if AC = 21, BC = 15-x, & AB = 4 + 2x.  Draw a picture:   |  |  | | --- | --- | | **Statements** | **Reasons** | | 1) Points A, B, & C are collinear with point B  between points A & C | 1. Given | | 1. AC=21, BC=15-x, AB=4 + 2x | 1. Given | | 3) AB + BC = AC | 3) | | 4) (4 + 2x) + (15 – x) = 21 | 4) | | 5) | 5) Simplify or combine like terms | | 6) | 6) | | 7) x = | 7) | |
| **Hon. Math 3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Unit 7 Parts 1 and 2 Review** | |
| 1. If  and  are diameters in , find *m* . | 1. Find ∠B.   17x - 4°  21x+32°  http://www.mathplanet.com/media/44145/circle_inscribed_polygon_499x300.jpg |
| 1. Find the measure of the angle indicated.     **165°** | 1. Solve for x, if the triangles shown are similar.     **http://www.math10.com/en/geometry/similar-triangles/ex4.png**  -4+2x |
| 1. Find the length of the bolded arc. | 1. Find the area of the sector. |
| 1. Find the value of x. |  |

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| 1. Simplify | 1. William put the tip of his pencil on the outer edge of a graph of the unit circle at the point (0,-1). He moved his pencil tip through an angle of radians in the counterclockwise direction along the edge of the circle. At what angle of the unit circle did William’s pencil tip stop? |
| 1. The diameter of a circle is 8 cm. A central angle of the circle intercepts an arc of 12 cm. What is the radian measure of the angle? | |
| 1. Write the standard form equation of the circle. | 1. Simplify sin2 x cot x csc x |