

GHS: Algebra II CFA *Semester 1* Student Sample Sheet

<p>1. Absolute Value (2-8) (ST. key 1.0)</p> <p>Solve, graph, and express answer in set-builder or interval notation.</p> <ol style="list-style-type: none"> 1. $-4q + 2 \geq 10$ 2. $6x - 8 = 22$ 3. $-\frac{1}{2} p - 2 \geq 3$ 	<p>2. Solve Systems (3-1, 3-2) (ST. key 2.0)</p> <ol style="list-style-type: none"> 1. $2x + y = 3$ $6x = 9 - 3y$ $2y + x = 4$ 2. $3x - 4y = 7$ $3x + 5y = -16$ 3. $2x + 3y = -9$ 	<p>3. Solve Sys. w/ Cramer's Rule (4-4) (ST. key 2.0)</p> <ol style="list-style-type: none"> 1. $2x + y = 10$ $3x - 2y = 8$ $3x + 5 = 2y$ 2. $15 - 6y = -9x$ 	<p>4. Solve Sys. w/ Inverse Matrix (4-5) (ST. key 2.0)</p> <ol style="list-style-type: none"> 1. $2x + 5y = 0$ $5x - 3y = 31$ $x + y = 4$ 2. $2x + 3y = 9$
<p>5. Graphing Quadratic Functions (5-2) (ST. key 10.0)</p> <p>Write equation in vertex-form, id. axis of symmetry, vertex, y-int., domain, and range. GRAPH.</p> <ol style="list-style-type: none"> 1. $f(x) = -x^2 - 2x + 3$ 2. $f(x) = 2x^2 - 4x + 5$ 3. $f(x) = x^2 + 5x + 9$ 	<p>6. Solving Quadratic Equations (5-3 thru 5-6) (ST. key 8.0)</p> <p>Find the roots using the most appropriate method.</p> <ol style="list-style-type: none"> 1. $x^2 + 12x + 8 = 0$ 2. $5x^2 - 50x = -128$ 3. $x^2 + 5 = -x$ 	<p>7. Operations w/ Complex #'s (5-9) (ST. key 5.0)</p> <ol style="list-style-type: none"> 1. $3 + 5i$ 2. $(5 - 2i) - (-2 - 3i)$ 3. $-6i^{14}$ 4. $\frac{2 + 8i}{4 - 2i}$ 	<p>8. Multiply & Divide Polynomials (6-2 & 6-3) (ST. key 3.0)</p> <ol style="list-style-type: none"> 1. $(2x - 1)^3$ 2. $(3x + 1)^4$ 3. $(x^3 + 3x^2 + 4) \div (x + 3)$ 4. Evaluate $P(x) = 6x^4 - 25x^3 - 3x + 5$ for $x = -\frac{1}{3}$.
<p>9. Roots of Poly. Equations (6-5 & 6-6) (ST. key 4.0)</p> <ol style="list-style-type: none"> 1. $x^4 + 25 = 26x^2$ 2. $x^3 + 6x^2 + 12x + 8 = 0$ 3. $x^4 + 4x^3 - x^2 + 16x - 20 = 0$ 	<p>10. Exp. Func., Growth & Decay (7-1) (ST. key 12.0)</p> <ol style="list-style-type: none"> 1. Rita put \$3000 in a bank account at 8% annual interest, compounded semiannually. How long will it take to earn \$1800 interest? 2. Determine whether the functions represents growth or decay, or neither. Explain. <ol style="list-style-type: none"> a) $p(x) = 5(1.2)^x$ b) $p(x) = 2x^3$ c) $p(x) = 10\left(\frac{3}{4}\right)^x$ 	<p>11. Properties of Logarithms (7-4) (ST. key 11.0, 14.0)</p> <p>Evaluate.</p> <ol style="list-style-type: none"> 1. $\log_2 32^6$ 2. $\log_8 4^{20}$ 3. Express as a single logarithm and evaluate: $\log_6 4 + \log_6 9$ 4. $2^{\log_2 27}$ 	<p>12. Exponential & Log. Equations (7-5) (ST. 11.1, key 14)</p> <p>Solve for x:</p> <ol style="list-style-type: none"> 1. $2^x = 7$ 2. $3^{x+1} = 84.2$ 3. $9^{2x} = 27^{x+4}$ 4. $\log_5 7 + \frac{1}{2} \log_5 4 = \log_5 x$ 5. $\log x - \log 8 = 3$

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<p>13. Simplify, +, -, x, ÷ Rational Expr. (8-2,8-3) (ST. key 7)</p> <p>Simplify.</p> <ol style="list-style-type: none"> 1. $\frac{(4xy^3)^2(x^2y)^3}{8x^5y^4}$ 2. $\frac{(x^2-6x+8)(x^2+5x+6)}{(3x-12)(x^2-4)}$ 3. $\frac{5x}{x^2+x-6} - \frac{4}{x^2+4x+4}$ 4. $\frac{4x^2-1}{x^2-4} \cdot \frac{x-2}{2x-1}$ 5. $\frac{x^2}{x^2+2x+1} \div \frac{3x}{x^2-1}$ 	<p>14. Solving Rational Eq. & Ineq. (8-5) (ST. key 1A15.0)</p> <p>Solve.</p> <ol style="list-style-type: none"> 1. $\frac{5x}{x-2} = \frac{3x+4}{x-2}$ 2. $\frac{2x-5}{x-8} + \frac{x}{2} = \frac{11}{x-8}$ 3. $\frac{6}{x-8} \leq 3$ 4. $\frac{6}{x-2} \geq -4$ 	<p>15. Radical Expressions & Rational Exponents (8-6) (ST. key 12, key 15)</p> <p>Write with an exponent.</p> <p>1a) $\sqrt[6]{x^4}$ 1b) $\sqrt[5]{(3x)^4}$</p> <p>Write as a radical and simplify (if possible).</p> <p>2a) $216^{\frac{2}{3}}$ 2b) $(36x^3)^{\frac{3}{2}}$</p> <p>Simplify.</p> <p>3a) $(25)^{\frac{1}{4}} \cdot (25)^{-\frac{7}{4}}$</p> <p>3b) $(\sqrt[3]{-8x^9})^2$</p>	<p>16. Solving Radical Equations & Inequalities (8-8) (ST. key 12)</p> <p>Solve. Check your solution(s).</p> <ol style="list-style-type: none"> 1. $\sqrt[3]{4x+1} - 5 = 0$ 2. $\sqrt{3x+6} = x+2$ 3. $\sqrt{x-7} + 9 < 12$ 4. $\sqrt[3]{x+2} \geq 1$
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