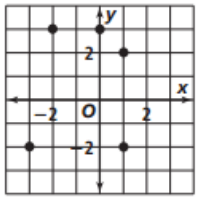
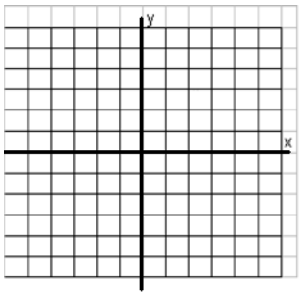
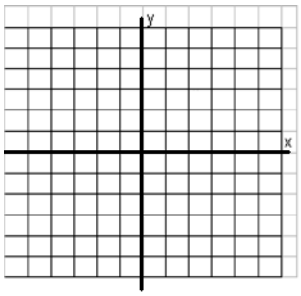
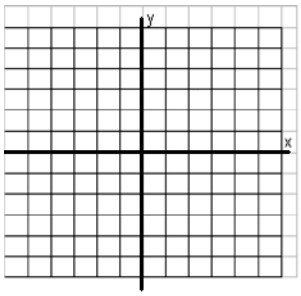
Concepts of Algebra 2 SLO Review (points) **White 3 (Thursday 4/2)**

Name:_____ **Date:**_____ **Block:**_____

1) Evaluate the expression for the given values. **(points) (1-3)** $-5\lvert 2x+3y\rvert,\ \ x=0.5,\ \ y=-2$	2) Simplify the expression. **(points) (1-3)** $8(x+4y)-2(x-8y)$
3) Find the domain and range of the relation, and determine whether it is a function. **(points) (2-1)** 	4) *y* varies directly with *x*; $x=0.5$ when $y=-0.125$. Find the constant of variation. Then find the value of *y* when $x=3$. **(points) (2-2)**
5) Find the slope of the line passing through the points (6, 3) and (7, -1). **(points) (2-3)**	6) Solve the system of equations. **(points) (3-2)** $\begin{cases} 3x+y=21 \\ -2x+y=1 \end{cases}$
7) Graph the absolute value function. **(points) (2-7)** $y=\lvert x-2\rvert-1$ 	8) Graph the solution to the system of inequalities. **(points) (3-3)** $\begin{cases} y\le -\frac{1}{2}x+3 \\ y>-4x \end{cases}$ 
9) One evening 1500 concert tickets were sold for a jazz festival. Tickets cost $25 for pavilion seats and $15 for lawn seats. Ticket sales totaled $28,500. How many of each type of ticket were sold? **(points) (3-2)**	10) Graph the quadratic function. **(points) (4-1)** $y=-(x+1)^2+5$ 

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11) Find the discriminant of the quadratic function and determine the number of real or imaginary solutions. **(points) (4-7)** $2x^2-4x+1=0$	12) Solve using the quadratic formula. **(points)** $6x^2=17x-5$
13) Simplify each expression. **(points) (4-8)** a) $(-6+2i)-(7+4i)$ b) $(-3-2i)(3+5i)$	14) Write the polynomial in standard form. Then classify it by degree and number of terms. **(points) (5-1)** $2x(x-2)(x+1)$
15) Write a cubic polynomial with rational coefficients in standard form whose zeros are *x* = -3, -4, 2. **(points) (5-2)**	16) Solve the equation using factor by grouping. **(points) (5-3)** $x^3+2x^2-6x-12=0$
17) Divide the polynomials. **(points) (5-4)** $(x^2-11x+28)\div(x-4)$	18) Simplify the expression. **(points) (6-1)** $\sqrt[3]{24a^{16}b^{19}}$
19) Rationalize the denominator. **(points) (6-3)** $\frac{7}{\sqrt{2}+\sqrt{3}}$	20) Solve the equation. Check for extraneous solutions. **(points) (6-5)** $\sqrt{x+2}=x$
21) Find $f(g(3))$ for $f(x)=x^2$ and $g(x)=x-5$. **(points) (6-6)**	22) Graph the function. Find the domain and range. **(points) (6-8)** $y=\sqrt{x+5}-3$