Algebra 2 (17-18) Benchmark #1
REVIEW

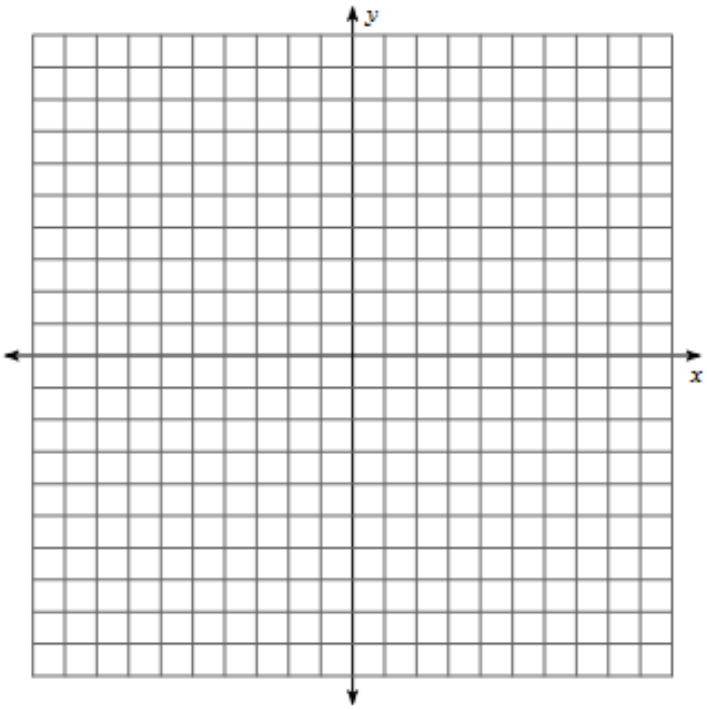
Name _____

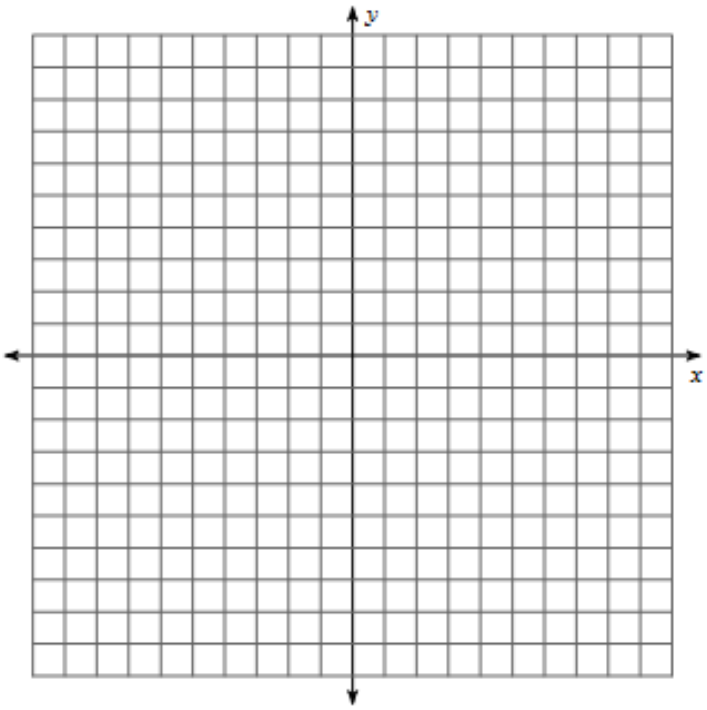
Date _____ # _____

1) Graph the following. Label <u>at least 5 points</u> on each graph.

a) $f(x) = 4(x+2)^2 - 6$

b) $f(x) = -|x-2|+1$





2) Simplify: $\dfrac{2-3i}{1+5i}$

3) The New River Gorge Bridge in West Virginia is the world's largest steel single arch bridge. The arch can be modeled by the function $y = -0.000498x^2 + 0.847x$, where x and y are measured in feet.

a) What is the bridge's <u>maximum</u> height?

b) How <u>long</u> (total distance) is the bridge?

4) Solve each system by <u>substitution</u>. List your solution(s) as an ORDERED PAIR(S)

a)
$$y = x^2 - 7x - 6$$
$$y = 8 - 2x$$

b)
$$y = -x^2 - 2x + 8$$
$$y = x^2 - 8x - 12$$

5) Simplify each. Write answers in standard form.

a) $(5 - 4i) + (-2 - 9i)$

b) $(-5 - 3i) - (1 - 7i)$