**Homework 5**

**Part 1: Graphing (Amplitude & Period)**

1. For each function, identify the amplitude and the period.
   * a) y=6cos(3x)
   * b) y=−2sin(x/4)
   * c) y=21​cos(πx)
2. Sketch one full cycle of the function y=4sin(2x). Label the amplitude and show the period on the x-axis.
3. Write the equation for a sine function that has an amplitude of 3 and a period of 6π.
4. Write the equation for a cosine function that has an amplitude of 5, and a period of π.

**Part 2: Comprehensive Review**

5. Find the exact value of all six trigonometric functions for the angle θ=−60∘.

6. If tanθ=−5/12 and cosθ>0, in which quadrant does θ lie? Find the value of sinθ and secθ.

7. Verify the identity: sec^2(x)−1=sin^2(x)sec^2(x).

8. Solve for x using the most efficient method: 2x^2−11x+5=0.

9. Simplify the expression: 4(x - 2y) - (x² - 3y + 1).

10. Solve the absolute value inequality and graph the solution on a number line: ∣2x+3∣<9.