

Name (print): _____ Signature: _____

You have 30 minutes. Show your work. Notes, calculators not allowed! Problems are on both pages.

Problem 1. (5 pts) Find the range and sketch the graph of the function $f(x) = 2x^2 - 8x - 10$.

Problem 2. (5 pts) Find the range and the period of the function $g(x) = 7 + 4 \cos(5x)$.

Problem 3. (5 pts) Home prices in Littletown, NW increase exponentially. Their doubling time is 14 years. How long does it take for prices to increase by 30 percent?

Problem 4. (5 pts) The graph of the cubic function $f(x) = x^3 - ax + b$, where a and b are unknown constants, contains the points $(2, 4)$ and $(0, 5)$. Find a and b .