Problem 1 (4 points). *Graph the following:*

(a) $\cos(\theta)$

(b) $(x-1)^2 + 2$

(c) $f(x) = 2^x$, $g(x) = .5^x$, $h(x) = 1^x$

Problem 2 (3 points). *(a) State the four laws of exponents.*

(b) Simplify $\dfrac{6^4 \cdot 5}{3^2 \cdot 4^3}$.

(c) Simplify $\sqrt{a\sqrt{b^4 a^2}}$. (Warning: is it true that $\sqrt{x^2} = x$?)

Problem 3. (3 points) Suppose $f(x) = e^x$ and $g(x) = x^3$.

(a) Write out: $(f \circ g)(x) =$

(b) What is the range of $f \circ g$?

(c) What is the definition of e?