

Name:

MATH 105 - SEC 001, FALL 2010. QUIZ 9
TIME LIMIT: 15 MINUTES

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Good luck!

Problem 1. Give a practical interpretation in words of the following functions:

(a) $k(g(t))$, where $L = k(H)$ is the length of a steel bar at temperature H and $H = g(t)$ is the temperature at time t

(b) $t(f(H))$, where $t(v)$ is the time of a trip at velocity v , and $v = f(H)$ is the velocity at temperature H .

Problem 2. Using your own words, briefly explain the process of **decomposition** of functions.

Problem 3. Using your knowledge of the absolute value function, explain in a few sentences the relationship between the graph of $y = |\sin(x)|$ and the graph of $y = \sin(x)$.

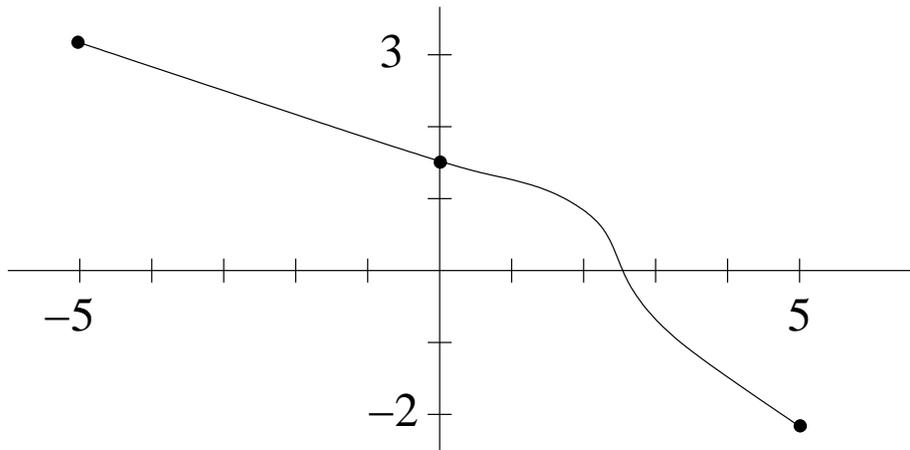
Problem 4. Use a graph to decide whether or not the following functions are invertible.

(a) $y = x^6 + 2x^2 - 10$

(b) $y = |x|$

(c) $y = e^{x^2}$

Problem 5. The figure below defines a function f . Rank the following quantities in order from least to greatest: $0, f(0), f^{-1}(0), f(3), f^{-1}(3)$.



Problem 6 Briefly explain what a combination of functions is.