Homework for Friday, Nov. 18th.

Mr. Neeman. 10B, November 17, 2011.

For each of the following:
(a) Sketch the graph (you can draw the graph for the normal trigonometric function first, but if you do then you must then erase the parts which are not included for the question or draw another diagram with just the relevant piece).
(b) Find the function's range
(c) Find any intervals where the function is increasing.
(d) Find any intervals where the function is decreasing.
(e) Say whether the function is injective.
(f) Say whether the function is surjective.
(g) Say whether the function is bijective.

#1. $f : [-180°, 180°] \to \mathbb{R}$, with $f(x) = \sin x$.

#2. $f : [0°, 45°] \to \mathbb{R}$, with $f(x) = \cos x$.

#3. $f :]-270°, -90°[\to \mathbb{R}$, with $f(x) = \tan x$.

#4. $f : [180°, 240°] \to \mathbb{R}$, with $f(x) = \sin x$.

#5. $f : [-180°, -60°] \to \mathbb{R}$, with $f(x) = \cos x$.

#6. $f : [-180°, -135°] \to \mathbb{R}$, with $f(x) = \tan x$.