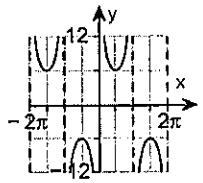
Student: _____ **Date:** _____	**Instructor:** Joe Betters **Course:** Pre-Calculus Pre AP (Master Course)	**Assignment:** 6.5 Classwork Day 2

1. Graph the following function. Show at least two cycles. Use the graph to determine the domain and range of the function.

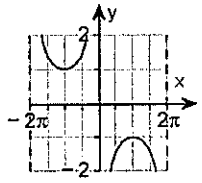
$y = -6 \csc x$

Choose the correct graph below.

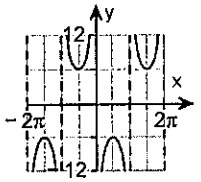
○ **A.**



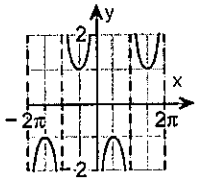
○ **B.**



○ **C.**



○ **D.**



Use the graph to determine the domain of $y = -6 \csc x$.

○ **A.** $\{x|x \neq k\pi, k \text{ is an integer}\}$

○ **B.** $\{x|x \neq \frac{k\pi}{4}, k \text{ is an odd integer}\}$

○ **C.** $\{x|x \neq \frac{k\pi}{2}, k \text{ is an odd integer}\}$

○ **D.** All real numbers

Use the graph to determine the range of $y = -6 \csc x$.

○ **A.** $\{y|y \geq -6 \text{ and } y \leq 6\}$

○ **B.** $\{y|y \geq -6\}$

○ **C.** $\{y|y \leq -6 \text{ or } y \geq 6\}$

○ **D.** All real numbers

2. Find the average rate of change of f from 0 to $\frac{5\pi}{12}$.

$f(x) = \tan(2x)$

The average rate of change is _____.

(Simplify your answer, including any radicals. Type an exact answer, using π as needed.)

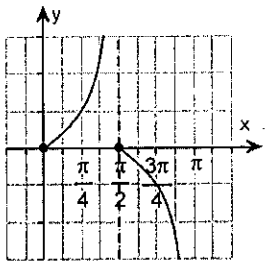
3.

Graph the function given to the right.

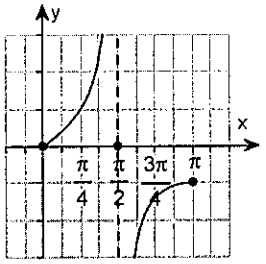
$$f(x) = \begin{cases} \sec x & 0 \le x < \frac{\pi}{2} \\ 0 & x = \frac{\pi}{2} \\ \tan x & \frac{\pi}{2} < x \le \pi \end{cases}$$

Choose the correct graph below.

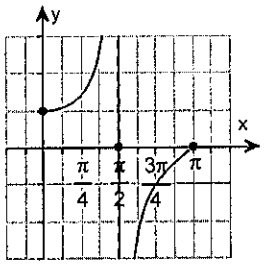
○ A.

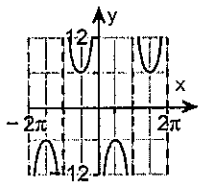


○ B.



○ C.



1. 

C.

A. $\{x|x \neq k\pi, k \text{ is an integer}\}$

C. $\{y|y \leq -6 \text{ or } y \geq 6\}$

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2. $-\frac{4\sqrt{3}}{5\pi}$

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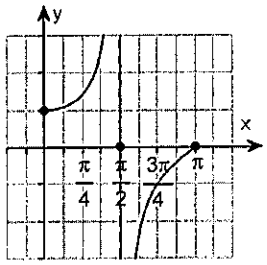
3. 

C.

6.5 classwork day 2

① $y = -6\csc x$

Graph C

Domain A Integer multiples of π

Range C $y \leq -6$ OR $y \geq 6$

② Average rate of change $\frac{f(b)-f(a)}{b-a}$

from 0 to $\frac{5\pi}{12}$

$f(x) = \tan 2x$

$$\frac{\tan\left(2\left(5\pi/12\right)\right) - \tan\left(2(0)\right)}{\frac{5\pi}{12} - 0}$$

$$\frac{\frac{-\sqrt{3}}{3} - 0}{5\pi/12} = \frac{-4\sqrt{3}}{5\pi}$$

③ $f(x) = \begin{cases} \sec x & 0 \leq x < \pi/2 \\ 0 & x = \pi/2 \\ \tan x & \pi/2 < x \leq \pi \end{cases}$

Graph C