Dawson College: Functions and Trigonometry: 201-009-50-C2: Fall 2008

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Quiz 10

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. Prove (Verify) the following identities:

a. *(4 marks)* pg. 198 #6

$$\frac{\sin x}{\csc x}+\frac{\cos x}{\sec x}=1 \longrightarrow \frac{\frac{\sin x}{1}}{\frac{1}{\sin x}}+\frac{\frac{\cos x}{1}}{\frac{1}{\cos x}}=1$$

$$\sin^2 x+\cos^2 x=1$$

$$1=1$$

b. *(6 marks)* pg. 198 #18

$$\frac{1-\cos 2x}{\sin 2x}=\tan x$$

$$\frac{1-(1-2\sin^2 x)}{\sin 2x}=\tan x$$

$$\frac{1-1+2\sin^2 x}{2\sin x\cos x}=\tan x$$

$$\frac{2\sin^2 x}{2\sin x\cos x}=\tan x$$

$$\frac{\sin x}{\cos x}=\tan x$$

$$\tan x=\tan x$$