

3 Strikes Yer Out

Monday, February 9, 2015 9:26 AM

3 Strikes Yer Out!

5.1-5.2 Review



Group Members:

1. Each worksheet has 1-3 problems. After you finish each page, bring the completed page up for grading.
2. You must **work together** so that each group member is at the same page. **** Hitchhiking is illegal in precalculus!****
3. When your **whole group** is finished with the worksheet, one person should bring **ALL** worksheets up to be checked. Bring your **score sheet** with you!
4. Scoring:
 - a. If your group gets **ALL** problems correct the first time, you will receive 3 points (to be written on the score sheet).
 - b. Otherwise, you will have to take your sheet, go back, and correct them... on the second time, you will receive 2 points.
 - c. On the third time... it's a HIGH FIVE FOR YOU!!

Worksheet	1 st Attempt (3 Points)	2 nd Attempt (2 Points)	3 rd Attempt (HIGH FIVE)
A			
B			
C			
D			
TOTAL POINTS			

1st Try ... 3 Points
2nd Try ... 2 Points
3rd Try ... High Five!

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Worksheet A - 5.1



Group Members (list your name first):

1. Simplify: $\sin x \cot x \sec x$

$$\sin x \cdot \frac{\cos x}{\sin x} \cdot \frac{1}{\cos x} = 1$$

2. Simplify: $\frac{1 - \sin^2 x}{\csc^2 x - 1} = \frac{\cos^2 x}{\cot^2 x} = \frac{\cos^2 x}{\frac{\cos^2 x}{\sin^2 x}}$

$$= \boxed{\sin^2 x}$$

3. Simplify: $\frac{\frac{\tan x + 1}{\sec x}}{\frac{1}{\cos x}}$

$$\left(\frac{\sin x}{\cos x} + 1 \right) \cdot \frac{\cos x}{1}$$

$$\boxed{\sin x + \cos x}$$

1st Try ... 3 Points
2nd Try ... 2 Points
3rd Try ... High Five!

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Worksheet B - 5.2



Group Members (list your name first):

1. Prove: $\csc x - \cos x \cot x = \sin x$

$$\frac{1}{\sin x} - \cos x \cdot \frac{\cos x}{\sin x}$$

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

$$\frac{\sin^2 x}{\sin x}$$

$$\sin x \checkmark$$

1st Try ... 3 Points
 2nd Try ... 2 Points
 3rd Try ... High Five!

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 Worksheet C - 5.2



Group Members (list your name first):

(sec x + 1)
 1. Prove: $\frac{\tan x}{\sec x - 1} = \frac{1 + \cos x}{\sin x}$
 (sec x + 1)

$$\frac{(\sec x + 1)(\tan x)}{\sec^2 x - 1}$$

$$\frac{(\sec x + 1)(\tan x)}{\tan^2 x}$$

$$\frac{\sec x + 1}{\tan x}$$

$$\left(\frac{1}{\cos x} + 1\right) \left(\frac{\cos x}{\sin x}\right)$$

$$\frac{1}{\sin x} + \frac{\cos x}{\sin x} = \boxed{\frac{1 + \cos x}{\sin x}} \checkmark$$

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Worksheet D - 5.1

Group Members (list your name first):

1st Try ... 3 Points
2nd Try ... 2 Points
3rd Try ... High Five!



Solve each over $[0, 2\pi)$.

1. $2\sin^2 x - \sin x = 1$

$$2\sin^2 x - \sin x - 1 = 0$$

$$(2\sin x + 1)(\sin x - 1) = 0$$

$$\sin x = -\frac{1}{2} \quad \sin x = 1 \quad \frac{\pi}{2}$$

$$\frac{\pi}{2}, \frac{7\pi}{6}, \frac{11\pi}{6}$$

2. $3\cot^2 x \cos x = \cos x$

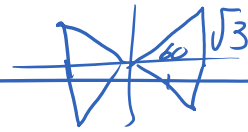
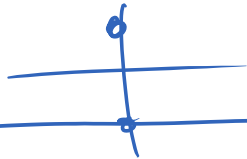
$$3\cot^2 x \cos x - \cos x = 0$$

$$\cos x (3\cot^2 x - 1) = 0$$

$$\cos x = 0$$

$$\sqrt{\cot^2 x} = \sqrt{\frac{1}{3}}$$

$$\cot x = \pm \frac{1}{\sqrt{3}} \quad \frac{\pi}{3} \quad 0$$



$$x = \frac{\pi}{2}, \frac{3\pi}{2}$$

$$\frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}$$