Name_____ Trigonometry, Test 2

1) Find $\cos\left(\frac{11\pi}{12}\right)$. Show your work. (5 points)

2) Find $\sin\left(\frac{3\pi}{2}\right)\cos\left(\frac{\pi}{2}\right) - \sin\left(\frac{\pi}{2}\right)\cos\left(\frac{3\pi}{2}\right)$. Show your work. (5 points)

3) Simplify $(2\sin(x) + \cos(x)) \cdot (\sin(x) + 2\cos(x)) - 4\sin(x)\cos(x)$ as much as possible. Circle your answer. (10 points)

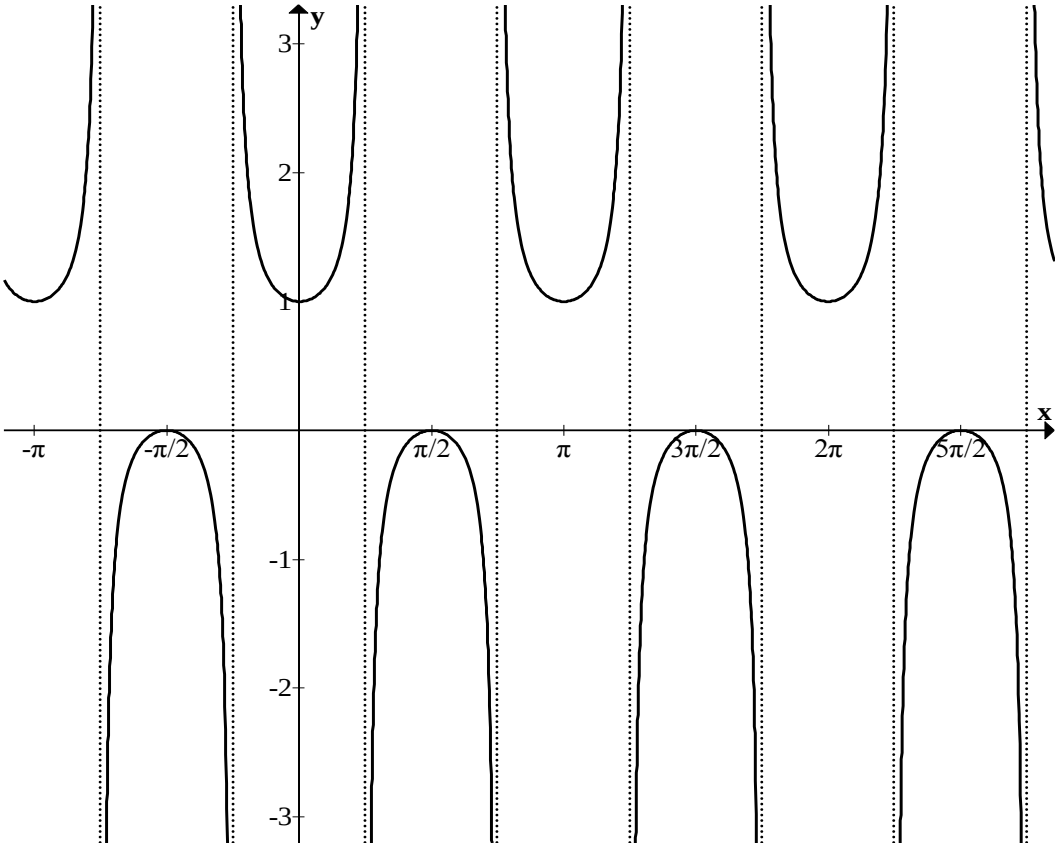
4) Verify the following identity. (20 points)

$$\frac{\csc(x) - \sin(x)}{\sin(x)} = \cot^2(x)$$

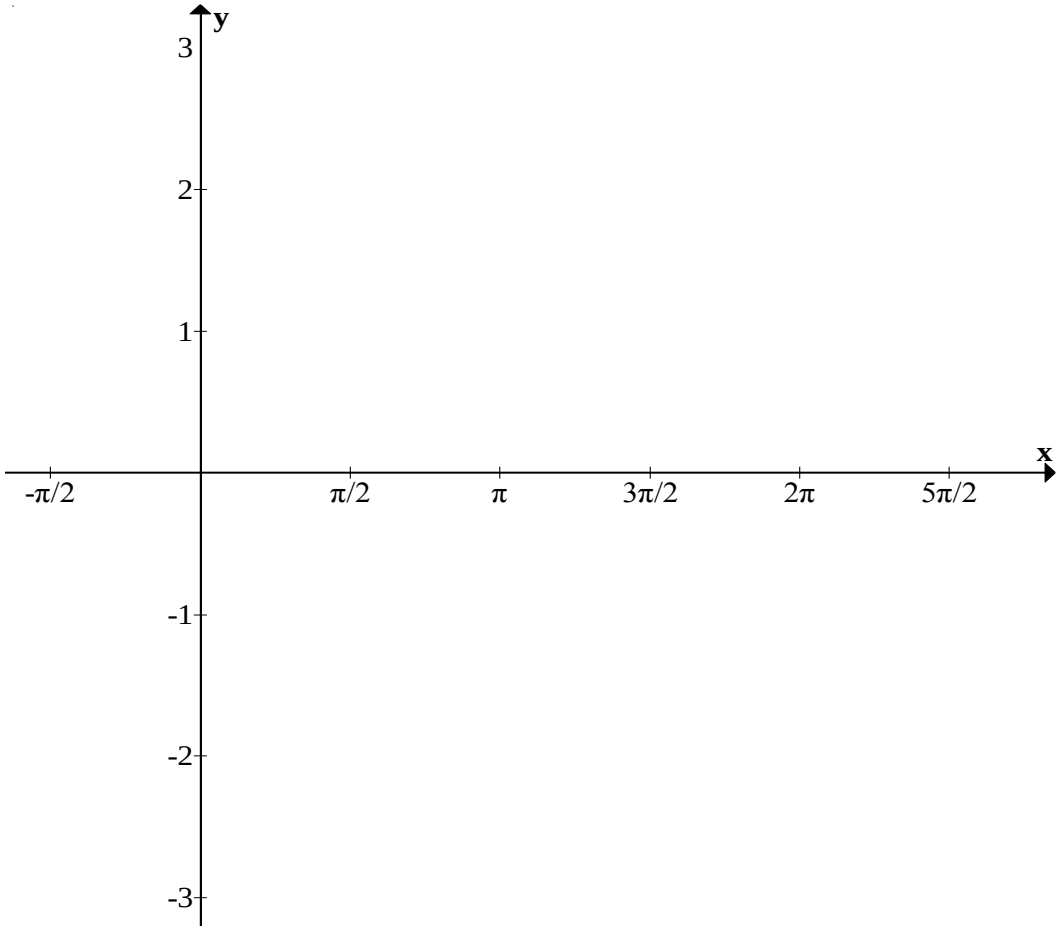
5) Write as a single fraction and simplify if possible. Circle your answer. (20 points)

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

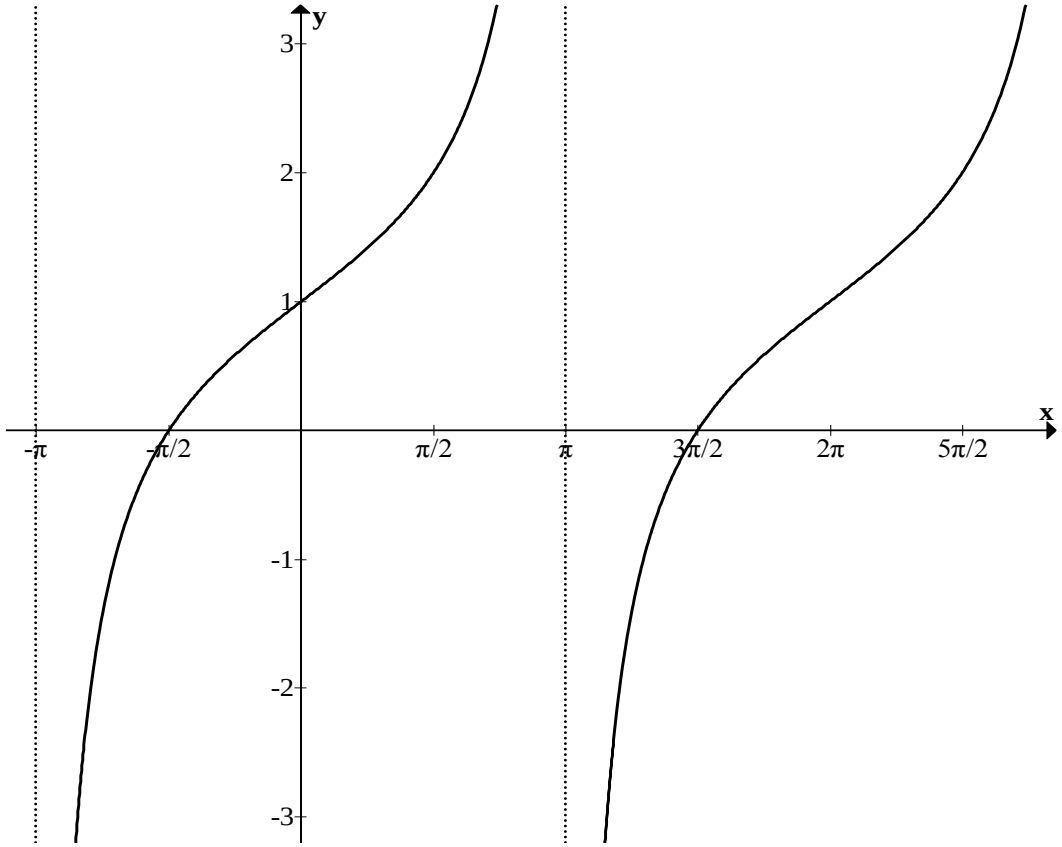
Find an equation for the graph shown below. Circle your answer. (10 points)



6) On the axis below, sketch the function $y = \sin\left(2\left(x - \frac{\pi}{2}\right)\right)$. (10 points)



7) Find an equation for the graph shown below. Circle your answer. (10 points)



8) On the axis below, sketch the function $y = 2\cos(x + 457\pi) - 1$. (10 points)