

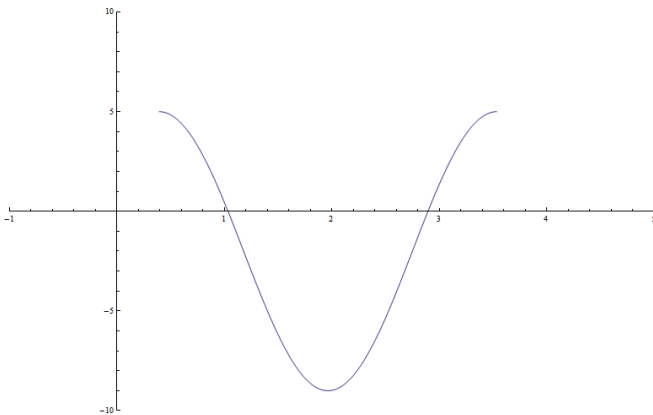
YOUR NAME: \_\_\_\_\_

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. (a) Find the amplitude, period and phase shift of  $y = 5 \sin\left(\frac{2}{3}x - \frac{2\pi}{3}\right)$ .

- (b) Find an equation for the wave of the figure (only one period is shown).



2. Verify the identity  $\frac{\sin x}{1 - \cos x} - \frac{\sin x}{1 + \cos x} = 2 \cot x$  (show all your steps clearly).