

Quiz 1

February 14, 2007

Use a sheet of your own notebook paper. Do not turn in this sheet.

1. Differentiate $\sin 2x$. “Differentiate” means “take the derivative of,” and $\sin 2x$ means $\sin(2x)$.
2. Recall that $\sin(x + y) = \sin x \cos y + \cos x \sin y$. Let $y = x$ to obtain an expression for $\sin 2x$ in terms of $\sin x$ and $\cos x$.
3. Differentiate the expression you found in the previous problem.
4. Differentiate $\cos 2x$.
5. Recall that $\cos(x + y) = \cos x \cos y - \sin x \sin y$. Let $y = x$ to obtain an expression for $\cos 2x$ in terms of $\sin x$ and $\cos x$.
6. Differentiate the expression you found in the previous problem.
7. Are your answers consistent with each other?