You may have confused the effects of *a* and *b* in $y = a \cdot \cos bx$. The function $y = 5 \cdot \cos 4x$ has an amplitude of 5 and a period of $\frac{2\pi}{4} = \frac{\pi}{2}$. The graphed function has an amplitude of 4 and a period of $\frac{2\pi}{5}$. The correct answer is $y = 4 \cdot \cos 5x$.