Answer on Question #58368 – Math – Trigonometry

Question

1. What is the period of the sinusoid given by $y = -3\cos(\frac{2\pi}{5}x)$

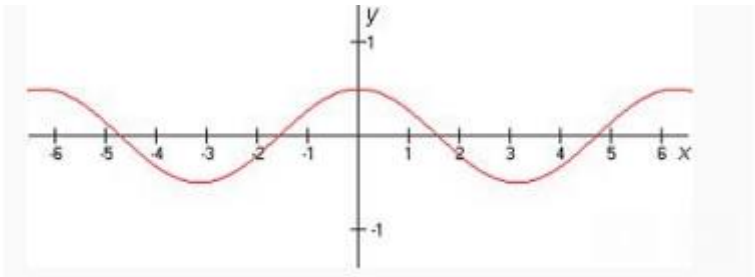
Solution

The regular period of $cos(x)$ function is 2π. Period formula for sines $sin(kx)$ and cosines $cos(kx)$ is $\frac{2\pi}{|k|}$, where k is a coefficient before x, $k \neq 0$. Then period of the given function is $\frac{2\pi}{\left|\frac{2\pi}{5}\right|} = 5.$

Answer: 5.

Question

2. Choose the function whose graph is given by



$y = 0.5\cos x$

$y = \cos(2x)$

$y = -0.5\sin x$

$y = \cos x$

Answer: $y = 0.5\cos x$.

Question

3. What is the amplitude of the sinusoid given by $y = -3\sin(5x)$?

Solution

Amplitude of sine and cosine functions are calculated as the absolute value of coefficient standing before function, i.e. $|-3|$ in this problem. Then answer is 3.

Answer: 3.

Question

4. Which equation represents the graph of $y = \sin x$ reflected across the y-axis then shifted vertically up by 2 units?

$y = -\sin x - 2$

$y = \sin(x - 2)$

$y = \sin x - 2$

$y = \sin(-x) + 2$

Answer: $y = \sin(-x) + 2$.

Question

5. Reflecting the graph of $y = \sin x$ across the y-axis is the same as reflecting it across the x-axis.

True

False

Answer: True.