

Topic: even/odd fcn and their derivatives

EVEN
FCN

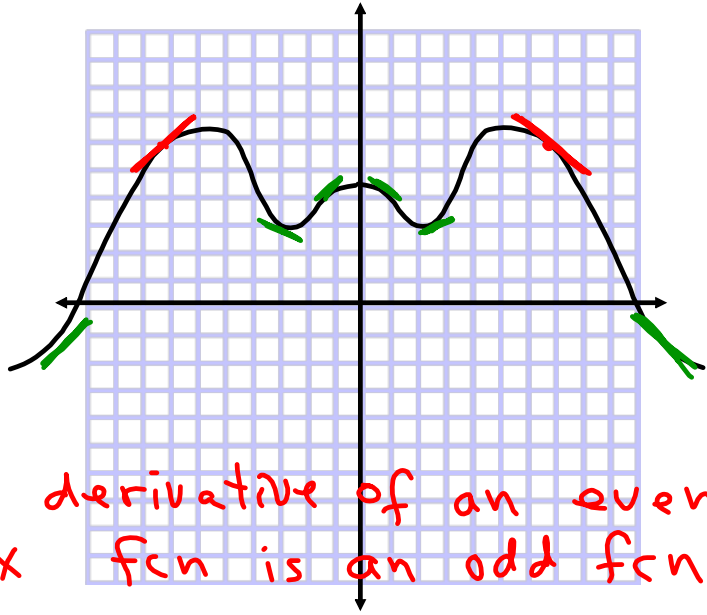
$$f(-x) = f(x)$$

$\cos x$

$$\frac{d}{dx}(\cos x) = -\sin x$$

odd

derivative of an even
fcn is an odd fcn



ODD FCN

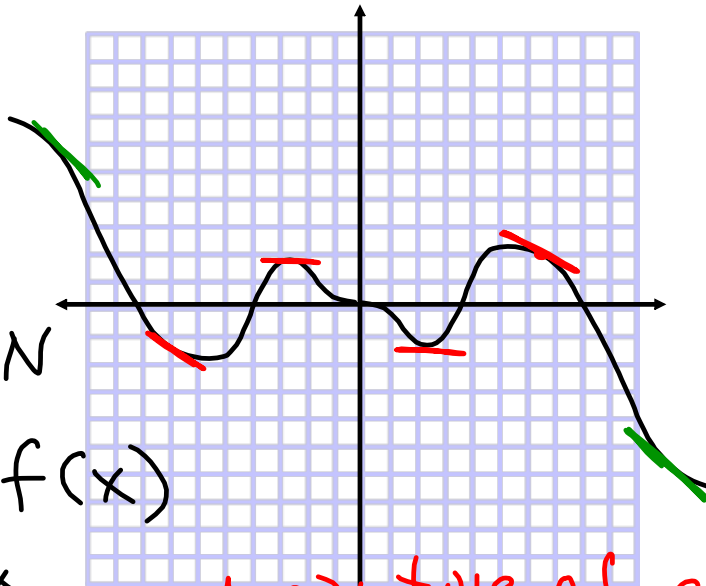
$$f(-x) = -f(x)$$

$\sin x$

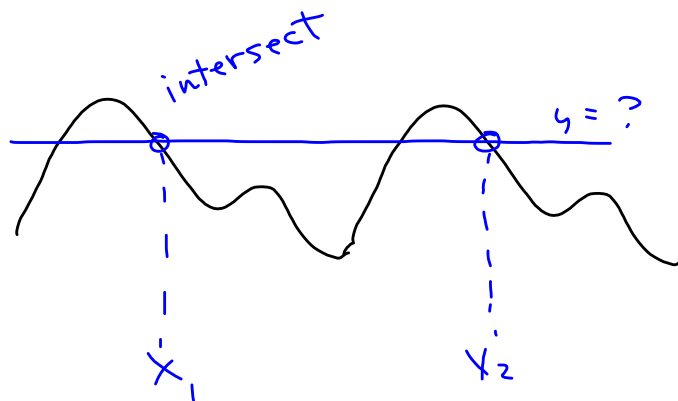
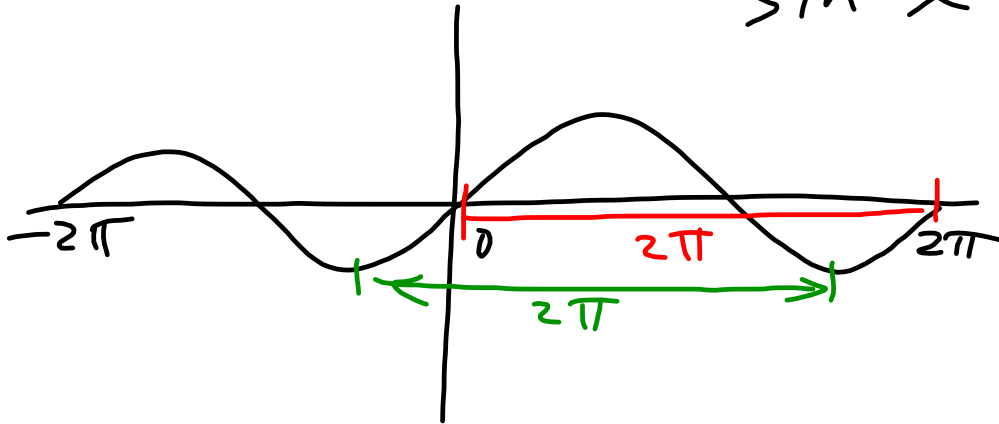
$$\frac{d}{dx}(\sin x) = \cos x$$

even

derivative of an
odd fcn is even



Hint on finding period
 $\sin x$



period $\tau = x_2 - x_1$

$$\frac{x_2 - x_1}{\pi} = 2 \rightarrow \tau = 2\pi$$

$$1 \rightarrow \tau = \pi$$

$$.25 \rightarrow \tau = \frac{\pi}{4}$$

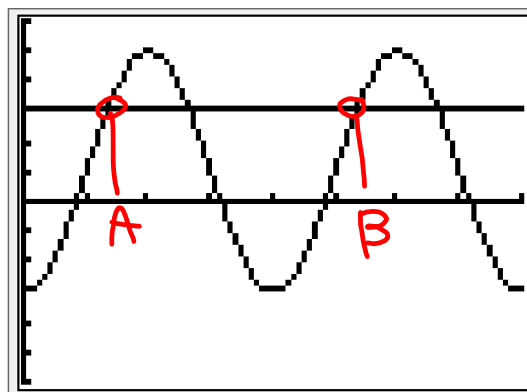
$$\#14 \quad \text{p. 146} \quad s = 1 - 4 \cos t$$

$$v = \frac{ds}{dt} = \dots$$

$$\text{speed} = \left| \frac{ds}{dt} \right|$$

$$\text{accel} = \frac{dv}{dt} = \dots$$

(c)



$$B - A = 6.283\dots$$