$\frac{d}{dx}\cos x$	the problem
$\lim_{h\to 0}\frac{\cos(x+h)-\cos x}{h}$	defn of derivative
$\lim_{h\to 0}\frac{\cos x\cos h-\sin x\sin h-\cos x}{h}$	$\cos(u+v)=\cos u\cos v - \sin u\sin v$
$\lim_{h\to 0}\frac{-\sin x\sin h+\cos x\cos h-\cos x}{h}$	put terms in order
$\lim_{h\to 0}\frac{(\cos x)(\cos h-1)}{h}+\lim_{h\to 0}\left(-\frac{\sin x\sin h}{h}\right)$	$(ac+bc+d)/q = a(b+c)/q + d/q$
$(\cos x)\lim_{h\to 0}\frac{\cos h-1}{h}+\lim_{h\to 0}\left(-\frac{\sin x\sin h}{h}\right)$	$\lim(cu) = c\lim u$
$(\cos x)\cdot 0+\lim_{h\to 0}\left(-\frac{\sin x\sin h}{h}\right)$	$\lim_{x\to 0}\frac{\cos x-1}{x}=0$
$0+\lim_{h\to 0}\left(-\frac{\sin x\sin h}{h}\right)$	$x\cdot 0 = 0$
$\lim_{h\to 0}\left(-\frac{\sin x\sin h}{h}\right)$	$0+x = x$
$-(\sin x)\lim_{h\to 0}\frac{\sin h}{h}$	$\lim(cu) = c\lim u$
$-(\sin x)\cdot 1$	$\lim_{x\to 0}\frac{\sin x}{x}=1$
$-\sin x$	simplify