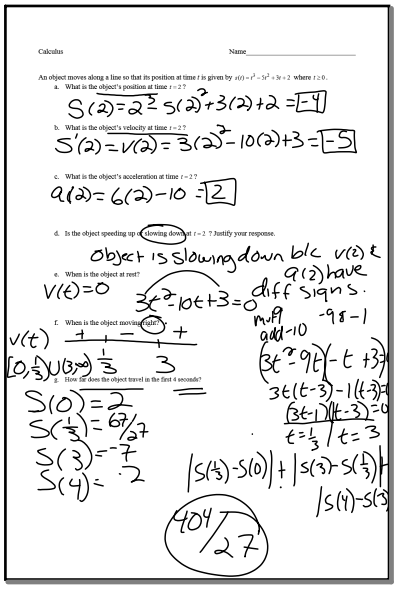

Particle Moving at a constant speed

Speeding up? $a(t) = 0$

$v(t)$ & $a(t)$ both + or both −

Slowing down? diff signs

Nov 7-9:45 AM

$g(x) = x \sin x - 2x$

$g(\pi/2) = \frac{\pi}{2} \sin \pi/2 - 2(\pi/2)$

$= \pi/2 - \frac{\pi}{1}$

$= \frac{\pi}{2} - \frac{2\pi}{2} \to -\pi/2$

$g'(\pi/2)$

$(\pi/2, -\pi/2)$

$g'(x) = x \cos x + 1 \sin x - 2$

$= \pi/2 \cos \pi/2 + \sin \pi/2 - 2$

$= \frac{\pi}{2}(0) + 1 - 2 = -1$

$y + \pi/2 = -1(x - \pi/2)$

Nov 7-10:03 AM

$y = \frac{\sin x}{1 + \cos x}$

$y' = \frac{(1+\cos x)(\cos x) - \sin x(-\sin x)}{(1+\cos x)^2}$

$= \frac{\cos x + \cos^2 x + \sin^2 x}{(1+\cos x)^2}$

$\frac{\cos x + 1}{(1+\cos x)^2} \to \frac{1}{1+\cos x}$

Nov 7-10:08 AM