

## Re: Second Order Differential Equations

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On Mar 18, 6:50 pm, BeckyLou...@xxxxxxxx wrote:

I am exploring a problem on exponential oil use and am having trouble solving a second order differential equation. I am trying to find an expression for  $f(t)$  in terms of  $t$  by solving  $f''(t) = .05f'(t)$ . I am using a made-up initial condition that  $f'(0) = 10$  billion barrels of oil. Can anyone give me some insight?

I do have that  $d^2y/dx^2 = .05 dy/dx$  obviously, =]

Hint: Do a change of variable. Let  $y' = u$ . Then  $y'' = u'$ . Substitute into the original equation to get a first order equation in  $u$ . Solve that, and then, knowing  $u$ , solve  $y' = u$ .

Dave

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