Re: polar and cartesian

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In article <1158034018.049981.21010@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
vicky <vikash.vks123@xxxxxxxxx> wrote:

> Friends
> As we knowrelation between poler and cartesian co−ordinates are
> x=r*cos(t) −−−−−−−(1) // sorry i
> use t for angle theta//

Nothing to be sorry for...

> y=r*sin(t) −−−−−−−−(2)
> r ^2= x^2+y^2 −−−−−−−(3)
> t= tan^−1(y/x) −−−−−−−(4)

No, you can take t = arctan(y/x) if x > 0, but if x < 0 you want
arctan(y/x) (+/−) pi (depending on which interval you want it to be in),
and if x = 0 the arctan is undefined.

> By equation (1) x_r = cos(t) −−−−(5)

OK, if _r means partial derivative wrt r (keeping t constant).

> By equation (3) differentiating w.r.to r we get
> x_r= sec(t) −−−−−−−(6)

"We" don't. The partial derivative of (3) wrt r (keeping t
constant) is

2 r = 2 x x_r + 2 y y_r
= 2 r cos(t) x_r + 2 r sin(t) y_r

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