

Nov 9-7:36 AM

Nov 9-7:34 AM

Nov 9-7:35 AM

Nov 9-7:35 AM

Nov 9-7:35 AM

Nov 9-7:35 AM

Implicit P.R. $u=2\cos x$ $v=\sin y$
 $u'= -2\sin x$ $v'= \cos y \frac{dy}{dx}$

7) Evaluate the derivative of $2\cos x \sin y = 1$ at the point $(0, \frac{\pi}{6})$

Implicit $-2\sin x \sin y + 2\cos x \cos y \frac{dy}{dx} = 0$
 $\frac{2\cos x \cos y}{2\cos x \cos y} \frac{dy}{dx} = \frac{2\sin x \sin y}{2\cos x \cos y}$
 $\frac{dy}{dx} (0, \frac{\pi}{6}) = \tan(0) \tan(\frac{\pi}{6}) = 0$

8) If $x + \sin y = y^2$ then $dy/dx =$
 $1 + \cos y \frac{dy}{dx} = 2y \frac{dy}{dx}$
 $(\cos y - 2y) \frac{dy}{dx} = -1$
 $\frac{dy}{dx} = \frac{-1}{\cos y - 2y}$

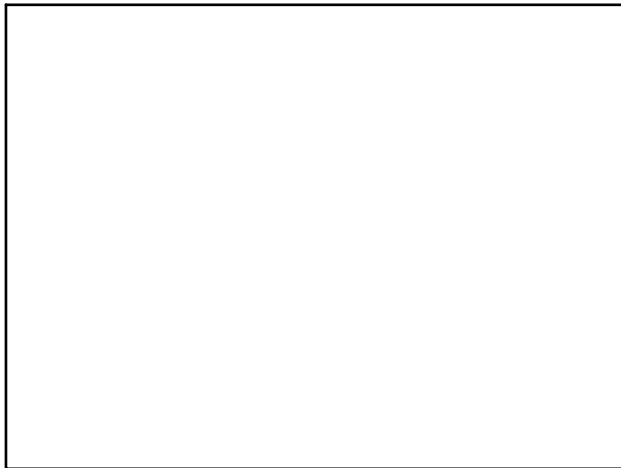
Nov 9-7:35 AM

Implicit $\rightarrow$ chain rule (p.r. $\rightarrow$ parenthesis)

9) If $y = \cos(xy)$ then $dy/dx =$
 $\frac{dy}{dx} = -\sin(xy) (y + x \frac{dy}{dx})$
 $\frac{dy}{dx} = -y \sin(xy) - x \sin(xy) \frac{dy}{dx}$
 $y + x \frac{dy}{dx} = \frac{y \sin(xy)}{1 + \sin(xy)}$ $\rightarrow$ C.R.

10) Find the tangent line to $f(x) = 2\sin x + \cos 2x$ at $(\pi, 1)$
 $f'(x) = 2\cos x - 2\sin 2x$
 $f'(\pi) = 2\cos \pi - 2\sin 2\pi = -2$ $\rightarrow$ slope

Nov 9-7:36 AM



Nov 6-7:05 AM