

$$13. y = \log 2x$$

$$y' = \frac{1}{2x \ln 10} \cdot 2$$

$$\boxed{C} \quad y' = \frac{1}{x \ln 10}$$

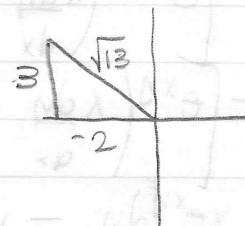
$$3 = \frac{1}{x \ln 10}$$

$$3 \ln 10 = \frac{1}{x}$$

$$1447 = x$$

$$14. \sin(\arccos\left(-\frac{2}{\sqrt{13}}\right))$$

$$\boxed{B} \quad \frac{3}{\sqrt{13}}$$



$$13 = 4 + b^2$$

$$9 = b^2$$

$$3 = b$$

$$15. f(x) = \arcsin \sqrt{1-4x^2}$$

$$\sin y = \sqrt{1-4x^2}$$

$$\cos y \frac{dy}{dx} = \frac{1}{2} (1-4x^2)^{-1/2} (-8x)$$

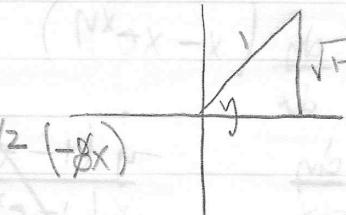
\boxed{B}

$$\frac{dy}{dx} = \frac{1}{\cos y} \cdot \frac{-4x}{\sqrt{1-4x^2}}$$

$$= \frac{1}{2|x|} \cdot \frac{-4x}{\sqrt{1-4x^2}}$$

$$\frac{dy}{dx} = \frac{-2x}{|x|\sqrt{1-4x^2}}$$

$$\begin{aligned} & \sqrt{1-4x^2} \\ & a^2 + 1 - 4x^2 = 1 \\ & a^2 = 4x^2 \\ & a = \pm 2x \\ & a = 2|x| \end{aligned}$$



$\boxed{B}) \sin^2(1-x) \cos^2(1-x) = 0$

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