

AP Multiple-Choice
NON-Calculator

1. Suppose $xy = 1$. Find the value of $\frac{dy}{dx}$ at $x = -2$.

- A. $\frac{3}{4}$
 - B. $\frac{1}{2}$
 - C. 0
 - D. $-\frac{1}{4}$
 - E. Not enough information
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2. Find $\frac{dy}{dx}$ when $x^2 - xy + y^4 = 17$.

- A. $\frac{dy}{dx} = \frac{-2x}{4y^3 - x}$
 - B. $\frac{dy}{dx} = \frac{y - 2x}{4y^3 - x}$
 - C. $\frac{dy}{dx} = \frac{y - 2x}{4y^3}$
 - D. $\frac{dy}{dx} = \frac{17 - 2x}{4y^3 - x}$
 - E. Not enough information
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3. Find $\frac{dy}{dx}$ when $\cos(x + 3y) = x \tan y$.

- A. $\frac{dy}{dx} = \frac{-\tan y}{x \sec^2 y + 3 \sin(x + 3y)}$
- B. $\frac{dy}{dx} = -\frac{\sin(x + 3y)}{x \sec^2 y + 3 \sin(x + 3y)}$
- C. $\frac{dy}{dx} = -\frac{\sin(x + 3y) + \tan y}{x \sec^2 y}$
- D. $\frac{dy}{dx} = -\frac{\sin(x + 3y) + \tan y}{x \sec^2 y + \cos(x + 3y)}$
- E. $\frac{dy}{dx} = -\frac{\sin(x + 3y) + \tan y}{x \sec^2 y + 3 \sin(x + 3y)}$