

## Quiz 01

Math 140-002: Calculus I (Spring 2026)  
Week 1 (Jan 12–Jan 16, 2026)

**Relevant topics:** Functions, inverse functions, trigonometric review, exponential and logarithmic expressions

**Time:** 10–20 minutes.

**Instructions:** No notes. Show essential steps. Focus on definitions and computational fluency.

1. Given  $\tan(x) = \frac{3}{4}$  with  $x$  in Quadrant I, find  $\sec(x)$ .
2. Evaluate exactly:  $\cos(\arcsin(2/3))$ .
3. Simplify using log rules:  $\ln(x^2e^3)$  (assume  $x > 0$ ).
4. Solve for  $x$ :  $3^{2x-1} = 81$ .