✓ **Congratulations! You passed!**

TO PASS 75% or higher

Keep Learning

GRADE
**100%**

Practice quiz onTangent Lines to Functions

TOTAL POINTS 2

1. Suppose that $f : \mathbb{R} \to \mathbb{R}$ is a function. Which of the following expressions corresponds to $f'(2)$, the slope **1 / 1 point** of the tangent line to the graph of $f(x)$ at $x = 2$?

   ⦿ $f'(2) = \lim_{h \to 0} \frac{f(2+h) - f(2)}{h}$

   ○ $f'(2) = \lim_{h \to 0} \frac{f(a+h) - f(a)}{h}$

   ○ $f'(2) = mx + b$

   ○ $f'(2) = 2$

   ✓ **Correct**
   This expression can be obtained from the first screen of our video by plugging in 2 for a.

2. Suppose that $h : \mathbb{R} \to \mathbb{R}$ is a function whose graph is shown as the blue curve in the figure. For how many **1 / 1 point** values of a is $h'(a) = 0$?
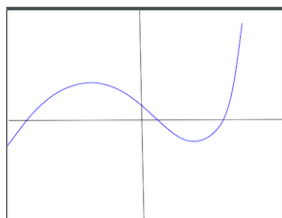
   ○ 3

   ○ Never

   ○ Always

   ⦿ 2

   ✓ **Correct**
   $h'(a)$ gives the slope of the tangent line to the graph of h at the point $x = a$.

   When $h'(a) = 0$, this means that the tangent line is horizontal.

   There are two places (one on each side of the y-axis) where this tangent line is horizontal, so this answer is correct.