

Name:

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**Question1:** Find the point(s) on the curve  $y = \frac{2x}{4+x^2}$  where the tangent line is horizontal.

**Question2:** Let  $f(x) = \begin{cases} 2x - \cos^2 x, & x \leq 0 \\ 2 \tan x, & x > 0 \end{cases}$ , find  $f'(x)$ .

**Question3.** Find the tangent equation to the curve  $f(x) = \frac{\cos(x)}{1-\sin(x)}$  when  $x = 0$