

Differentiate and simplify:

1) $f(x) = \ln(8 + 5x)$

2) $g(x) = \ln(\sec 2x + \tan 2x)$

3) $h(x) = \ln \sqrt{8 + 5x}$

4) $f(x) = \ln \sqrt{\tan x}$

5) $f(x) = \ln(3x + 4)^4$

10) $f(x) = \ln \sqrt[3]{2x + 5} f_{2x+5}$

6) $g(x) = \ln^{-1}(3x + 1)$

11) $f(x) = {}^8f_{\ln x}$

8) $f(x) = \ln(\sqrt[5]{8 - x^2})$

12) $h(x) = \ln \sqrt[3]{x+1} f_{x+1}$

9) $f(x) = \ln(\sin 5x)$

13) $g(x) = \sqrt{x+1} - \ln(1 + \sqrt{x+1})$

7) $f(x) = \cos(\ln x)$