

Find the derivative of the function.

1) $f(x) = 4x^{1/2} + 5x^{3/2}$

6) $g(r) = \cot \sqrt{3r}$

2) $g(x) = \sqrt{1 + 4x^2}$

3) $f(x) = (5 - 3x)^{2/3}$

4) $g(y) = \frac{1}{\sqrt{25 - y^2}}$

5) $h(t) = 2 \cos \sqrt{t}$