

Differentiation Two

1. Differentiate $\sin 2x + \frac{2}{\sqrt{x}}$ with respect to x . 4
2. Given that $f(x) = (5x - 4)^{\frac{1}{2}}$, evaluate $f'(4)$. 3
3. Given $f(x) = \cos^2 x - \sin^2 x$, find $f'(x)$. 3
4. Find the equation of the tangent to the curve $y = 2 \sin(x - \frac{\pi}{6})$ at the point where $x = \frac{\pi}{3}$. 4
5. If $f(x) = \cos^2 x - \frac{2}{3x^2}$, find $f'(x)$. 4