

Mean Value Theorem for Integrals

Directions: Find the average value of each function on the given interval.

1. $f(x) = 3x^2 - 4x + 1$ on $[1,3]$

2. $f(x) = \sin x \cos x$ on $\left[0, \frac{\pi}{4}\right]$

3. $f(x) = \frac{2x}{1+x^4}$ on $[-1,1]$

4. $f(x) = \sqrt{5x+1}$ on $[0,3]$

5. $f(x) = (2x+3)^4$ on $[-3,1]$

6. $f(x) = \tan x$ on $\left[\frac{\pi}{6}, \frac{\pi}{3}\right]$

7. $f(x) = x^{-2} - x$ on $[1,3]$

8. $f(x) = e^{2x}$ on $[-1,2]$

9. $f(x) = (x-3)^6$ on $[2,5]$

10. $f(x) = \frac{x^2+5x+6}{x-1}$ on $[2,4]$