Lecture Eight Practice

Practice problems for Lecture Eight

Abstract. *Practice problems for Lecture Eight Content*

Problem. 1 : Compute the following derivative:

$$\frac{d}{dx}\left(\frac{x^2+2x-8}{x-1}\right) = \boxed{}\ ?$$

Problem. 2 : Calculate the derivative of the following function: $f(x) = \frac{x^2-9x+20}{(x+2)(x-2)}$

$f'(x) = \boxed{}\ ?$

Problem. 3 : Calculate the derivative of the following function: $f(x) = \frac{(x+3)(x+1)}{x^2-49}$

$f'(x) = \boxed{}\ ?$

Problem. 4 : Calculate the derivative of the following function: $f(x) = \frac{x^{\frac{1}{3}}-4}{x^{\frac{7}{2}}}$

$f'(x) = \boxed{}\ ?$

Problem. 5 : Calculate the derivative of the following function:

$f(x) = \big(x^2 + 3\big)\big(x^2 - 3\big)x^2$

$f'(x) =$?

Problem. 6 : Find derivative of

$$f(x) = \frac{x^2 - 2e^x}{x + 3e^x}$$

$f'(x) =$?

Problem. 7 : Use product rule to find derivative of $f(x) = (3 - 5xe^x)(3x + 2)$

$f'(x) =$?

Problem. 8 : Use product rule to find derivative of $f(x) = (x^3 - 2x + 1)(3x^3 + 2x^2 - 5x)$

$f'(x) =$?