

Math 231 Worksheet 3

Find the derivative of the function.

1. $f(x) = 1 - 2x + 4x^3 - 6x^5$

2. $g(x) = (x + 2)^3$

3. $h(x) = \frac{x^2 + 2x + 3}{x^2}$

4. $y = \sqrt[3]{x} + \frac{1}{\sqrt[3]{x^2}}$

5. $y = \sqrt{x}\left(x + \frac{1}{x^2}\right)$

Answers:

1. $-2 + 12x^2 - 30x^4$

2. $3x^2 + 12x + 12$

3. $-\frac{6}{x^3} - \frac{2}{x^2}$

4. $\frac{1}{3x^{2/3}} - \frac{2}{3x^{5/3}}$

5. $\frac{3\sqrt{x}}{2} - \frac{3}{2x^{5/2}}$