Differentiation (... Practice Set 3)

Basic Derivatives Practice Worksheet

Rewrite each function, differentiate, and then simplify (no negative exponents!)

Function	Rewrite	Differentiate	Simplify
A. $y = \dfrac{5}{2x^3}$			
B. $y = \dfrac{5}{(2x)^3}$			
C. $y = \dfrac{7}{3x^{-2}}$			
D. $y = \sqrt[6]{x}$			
E. $y = \dfrac{1}{x^2} + \dfrac{1}{x^3}$			
F. $y = \dfrac{2}{\sqrt[3]{x}} - \dfrac{3}{x^2}$			

Differentiation (… Practice Set 3)

Use an applicable rule to find each derivative.

1. $f(x) = x^5 - 2x^3 + 7x - 12$	2. $g(x) = 3x^2 + 2x + 1$	3. $s(t) = -16t^2 + 70t + 500$
4. $y = \dfrac{2}{x}$	5. $y = 2\sqrt{x}$	6. $y = \dfrac{4x^2}{5}$
7. $y = -\dfrac{3}{2}x$	8. $y = \dfrac{1}{2\sqrt[3]{x^2}}$	9. $f(x) = x^3 - 4x + 5$
10. $g(x) = -\dfrac{x^4}{2} + 3x^3 - 2x$	11. $h(x) = \sqrt[5]{x} - \sqrt[4]{x} - \dfrac{1}{x^3}$	12. $f(x) = -\dfrac{1}{2} + \dfrac{7}{5}x^2$
13. $f(x) = x^2 + 5 - 3x^{-2}$	14. $h(s) = s^{\frac{4}{5}} - s^{\frac{2}{3}}$	15. $F(T) = T^{\frac{2}{3}} - T^{\frac{1}{3}} + 4$
16. $y = 3x(6x - 5x^2)$	17. $f(x) = \dfrac{x^3 - 3x^2 + 4}{x^2}$	18. $h(x) = \dfrac{2x^2 - 3x + 1}{x}$