1. What is the derivative of:

(a) \( f(x) = x^2 \) 
(b) \( f(x) = x^2 \)  
(c) \( f(x) = x^3 \)  
(d) \( f(x) = x^4 \)  
(e) \( f(x) = x^9 \)  
(f) \( f(x) = x^{513} \)  
(g) \( f(x) = x^{1/2} \)  
(h) \( f(x) = x^{3/2} \)  
(i) \( f(x) = \sqrt{x} \)  
(j) \( f(x) = \frac{1}{x} \)  
(k) \( f(x) = x^{-1/2} \)  
(l) \( f(x) = x^{-3/2} \)  
(m) \( f(x) = \frac{1}{x^2} \)  
(n) \( f(x) = \frac{1}{x^{7/2}} \)  
(o) \( f(x) = \frac{1}{x^{3/2}} \)  
(p) \( f(x) = \frac{1}{x^2} \) 

2. What is the derivative of:

(a) \( f(x) = 5x^2 \)  
(b) \( f(x) = 3x^2 \)  
(c) \( f(x) = 2x^{3/2} \)  
(d) \( f(x) = 9x^{3/2} \)  
(e) \( f(x) = 10\sqrt{x} \)  
(f) \( f(x) = \frac{2}{5x} \) 

3. What is the derivative of:

(a) \( f(x) = 5x^2 + 9 - \pi + \frac{1}{\sqrt{x}} + \pi^2 \) 
(b) \( f(x) = x^3 + 5x^{3/5} + \frac{1}{\pi^{7/5}} \) 
(c) \( f(x) = 4x^{-3} + 10x + x^{-3/2} + \sqrt{x} + 2 \) 
(d) \( f(x) = x^9 + \pi x^{2/5} + \frac{1}{\sqrt{x}} \)