1. Differentiate the function \( f(x) = -x^5 + 17x - 5 \). Express your answer in terms of elementary functions.

2. Let \( y = e^t + t^5 - 2t^4 \). Find \( \frac{dy}{dt} \). Express your answer in terms of elementary functions.

3. Let \( y = \sec(t) + 2t^8 \). Find \( \frac{dy}{dt} \). Express your answer in terms of elementary functions.

4. Differentiate the function \( g(x) = 2 \sec(x) + e^x - 5x^3 \). Express your answer in terms of elementary functions.

5. Differentiate the function \( f(x) = \pi^3 x + \ln(4) \). Express your answer in terms of elementary functions.

6. Differentiate the function \( f(x) = (4x^3 + 5x^2 + 3)(5x^5 + 7x + 2) \). Express your answer in terms of elementary functions.

7. Let \( y = (3t^4 + 3)e^t \). Find \( \frac{dy}{dt} \). Express your answer in terms of elementary functions.

8. Differentiate the function \( f(x) = -5e^x \cos(x) \). Express your answer in terms of elementary functions.

9. Differentiate the function \( f(t) = -2t^6 \ln(t) \). Express your answer in terms of elementary functions.

10. Differentiate the function \( h(x) = \frac{e^x}{e^x - 3x^3 + 3} \). Express your answer in terms of elementary functions.

11. Differentiate the function \( f(x) = \frac{7e^x}{\cos(x)} \). Express your answer in terms of elementary functions.

12. Differentiate the function \( f(x) = \frac{8 \sec(x)}{x^3} \). Express your answer in terms of elementary functions.

13. Let \( y = \frac{3t^5}{\cos(t)} \). Find \( \frac{dy}{dt} \). Express your answer in terms of elementary functions.
1. $17 - 5x^4$
2. $e^t + 5t^4 - \frac{8t^\frac{7}{3}}{3}$
3. $\sec(t) \tan(t) + 16t^7$
4. $2 \sec(x) \tan(x) + e^x - 15x^2$
5. $\pi^3$
6. $(12x^2 + 10x) (5x^5 + 7x + 2) + (4x^3 + 5x^2 + 3) (25x^4 + 7)$
7. $(3t^\frac{4}{3} + 3)e^t + 4t^\frac{1}{3}e^t$
8. $5e^x \sin(x) - 5e^x \cos(x)$
9. $-12t^5 \ln(t) - 2t^5$
10. $\frac{e^x}{e^x - 3x^3 + 3} - \frac{e^x (e^x - 9x^2)}{(e^x - 3x^3 + 3)^2}$
11. $\frac{7e^x \sin(x)}{(\cos(x))^2} + \frac{7e^x}{\cos(x)}$
12. $\frac{8 \sec(x) \tan(x)}{x^3} - \frac{24 \sec(x)}{x^4}$
13. $\frac{3t^5 \sin(t)}{(\cos(t))^2} + \frac{15t^4}{\cos(t)}$