more derivative practice

Find the derivative for the following. (No need to simplify.) Here are some old gateway questions with some implicit differentiation examples mixed in.

1. \(g(x) = x^4 \sec(4.7x)\)
2. \(y = \sqrt{x^2 - x + \pi} - (4x - 3)^{2.95}\)
3. \(f(x) = (4x^2 - x)^{1/3} - \frac{1}{\sqrt{x}}\)
4. \(f(x) = (x + 1) \cos(-x)\)
5. \(x^2 + y^2 = 25\), find \(\frac{dy}{dx}\)
6. \(y = \sqrt[3]{\tan(\pi w)}\)
7. \(s = \left[\frac{t^2 - 4}{t}\right]^{1/3}\)
8. \(x^3 + y^3 = 6xy\), find \(y'\)
9. \(g(\theta) = \sqrt{2\theta^3 - \theta - 1} + 3.5((18\theta^4)^{4.14}\)
10. \(W(m) = \frac{(m^4 + 1)^3}{(\csc(3m + 2))^{1/4}}\)
11. \(\sin(x + y) = y^2 \cos(x)\), find \(y'\)
12. \(h(w) = \sqrt{w^4 + w^2 + 1} \cdot \cos(-6w^2)\)