MA 2310: Some Derivatives to practice

Find the derivatives.

1. $y = x^2 - \sqrt{x} + \frac{1}{x}$
2. $y = \frac{x^2-1}{x}$ do this without the quotient rule.
3. $y = \frac{x^2-1}{x}$ redo this with the quotient rule and compare.
4. $y = x^2(x^3 + 1)$ use product rule
5. $y = (x^3 + 1)^5$ use chain rule
6. $y = (2x^3 - x - 1)^7$
7. $y = x^2(2x^3 - x - 1)^7$
8. $y = 3e^x + 4\sin(x) - 7\ln(x)$
9. $y = \sin(x^3 + 1)$ use chain rule
10. $y = e^{x^3+1}$ use chain rule
11. $y = \ln(x^3 + 1)$ use chain rule
12. $y = x^5 \sin(x^3 + 1)$
13. $y = \tan(x)e^{x^3+1}$
14. $y = x^3 \ln(x^3 + 1)$
15. $y = \tan^{-1}(x)$
16. $y = \tan^{-1}(x^2)$
17. $y = \tan^{-1}(x^2 + 1)$
18. $y = \csc(x)$
19. $y = \csc(x^2)$
20. $y = \csc(x^2 + 1)$