Integrals Worksheet 1

Compute the following antiderivatives. (Please do your work on a separate sheet of paper.)

1. Find the antiderivative of $f(x) = 4x^3 + 5\sqrt{x} + \frac{1}{x^2}$
2. Find the antiderivative of $f(x) = x^8 + x^3 + x^2 + \sqrt{x} + \frac{1}{x^5}$
3. Find the antiderivative of $f(x) = \frac{1}{x^2} + \frac{1}{x^3} + \frac{1}{\sqrt{x}} + \frac{1}{x}$
4. $\int x^4 + 5x + 2 \; dx$
5. $\int 3x^4 + 5x^2 + 2x^{-2} \; dx$
6. $\int (x^3 + 5x - 7)x \; dx$
7. $\int x^4 + 5x + 2 \; dx$
8. $\int \sqrt{x} - \sqrt{x^3} + \frac{5}{x^3} + \pi \; dx$
9. $\int \sqrt[3]{x} - \frac{1}{\sqrt{x^3}} + \frac{\sqrt{2}}{x^3} + e \; dx$
10. $\int (\frac{4}{\sqrt{x}} + \frac{4}{x}) \; dx$
11. $\int \sin x - 8\cos 8 \; dx$
12. $\int \sec x \tan x + \sec^2 x \; dx$