Find all the integrals. Remember that definite integrals should have numerical answers. You MUST show your work.

1a. \[ \int (x + 1)x^{12} \, dx \]

1b. \[ \int \ln(x^2) \, dx \]

2. \[ \int \frac{dx}{x^2(x + 2)} \]

3. \[ \int_0^2 \frac{x}{1 + x^4} \, dx \]

4. \[ \int x(\sin x) \, dx \]

5. \[ \int_2^4 \frac{dx}{x(x - 1)} \]