(2 pts each) Evaluate each integral.

1. \( \int (x^3 - 2x)(x^4 - 4x^2 + 5)^7 \, dx \)

2. \( \int e^{3x} \sqrt{5 + e^{3x}} \, dx \)

3. \( \int \frac{e^{\frac{1}{x}}}{x^2} \, dx \)
4. \[ \int \frac{18x - 6}{\sqrt{3x^2 - 2x}} \, dx \]

5. \[ \int \frac{4x^2 - 2x}{4x^3 - 3x^2 + 2} \, dx \]

6. \[ \int 8x \sqrt{x^2 + 5} \, dx = \]
7. \[ \int \frac{(\ln x)^3}{x} \, dx = \]

8. \[ \int \frac{x + 2}{(x^2 + 4x + 1)^3} \, dx = \]
9. \[ \int_{0}^{1} (4x^3 + 1)(x^4 + x)^5 \, dx = \]

10. \[ \int_{0}^{2} x(x^2 - 1)^3 \, dx = \]
11. (4 pts) Find the area of the region bounded by the graphs of \( y = -x^2 + 4 \) and \( y = -2x + 4 \). Be sure to first accurately graph this region on the axes below.
12. (4 pts) Find the area of the region bounded by the graphs of $y = x^2 - 1$ and $y = 2x - 1$. Be sure to first accurately graph this region on the axes below.