PER PARTES

1. $\int x^2 \cdot e^x = e^x(x^2 - 2x + 2) + c$
2. $\int x^3 \cdot e^x = e^x(x^3 - 3x^2 + 6x - 6) + c$
3. $\int x \cdot e^{2x} = e^{2x}\left(\frac{1}{2}x - \frac{1}{4}\right) = \frac{1}{2}e^{2x}\left(x - \frac{1}{2}\right) + c$
4. $\int x^2 \cdot e^{-x} = -e^{-x}(x^2 + 2x + 2) + c$
5. $\int (x^2 - 2x + 1) \cdot e^x = e^x(x^2 - 4x + 5) + c$

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6. $\int (3x^2 + 2x - 1) \cdot \sin x = -(3x^2 + 2x - 1)\cos x + (6x + 2)\sin x + 6\cos x + C$
7. $\int (2x^3 - 4x + 1) \cdot \cos x = (2x^3 - 4x + 1)\sin x + (6x^2 - 4)\cos x - 12x\sin x - 12\cos x + C$
8. $\int (x^2 - 3x + 1) \cdot \cos x = (x^2 - 3x + 1)\sin x + (2x - 3)\cos x - 2\sin x + C$

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9. $\int \ln^2 x = x(\ln^2 x - 2\ln x + 2) + c$
10. $\int (2x - 1)\ln x = (x^2 - x)\ln x - \frac{x^2}{2} + x + c$
11. $\int (2x^2 + 5x - 1)\ln x = \left(\frac{2}{3}x^3 + \frac{5}{2}x^2 - x\right)\ln x - \frac{2}{9}x^3 - \frac{5}{4}x^2 + x + c$
12. $\int x \cdot \ln^2 x = \frac{x^2}{2}\left(\ln^2 x - \ln x + \frac{1}{2}\right) + c$
13. $\int \sqrt{x} \cdot \ln x = \frac{2}{3}x\sqrt{x}\ln x - \frac{4}{9}x\sqrt{x} + c$
14. $\int \sqrt[3]{x^2}\ln^2 x = \frac{3}{5}x \cdot \sqrt[3]{x^2} \cdot \left(\ln^2 x - \frac{6}{5}\ln x + \frac{18}{25}\right) + c$
