No calculators will be allowed and no partial credit will be given.

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1. Express the indefinite integral $\int (2\,x - 2)\,\left(x^2 - 2\,x + 2\right)^4\,dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.

2. Express the indefinite integral $\int 2\,e^{6\,x}\,dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.

3. Express the indefinite integral $\int 3\,(\cos{(t)})^5\,\sin{(t)}\,dt$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.

4. Express the indefinite integral $\int 7\,x^2\,e^{-x^3}\,dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.

5. Express the indefinite integral $\int 4\,x^{2/3}\,\cos\left(x^{5/3} + 1\right)\,dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.

6. Express the indefinite integral $\int \dfrac{10\,x + 6}{5\,x^2 + 6\,x + 2}\,dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.

7. Express in simplified form the value of $\int_0^1 -3\,x^2\,\left(2\,x^3 + 2\right)^3\,dx$.

8. Express in simplified form the value of $\int_0^1 8\,x^2\,e^{-x^3}\,dx$.

9. Express in simplified form the value of $\int_0^\pi 4\,(\cos{(x)})^3\,\sin{(x)}\,dx$.

10. Express in simplified form the value of $\int_1^{e^2} -\dfrac{(\ln{(x)})^3}{x}\,dx$.

1. $\dfrac{\left(x^2 - 2\,x + 2\right)^5}{5} + C$

2. $\dfrac{e^{6\,x}}{3} + C$

3. $-\dfrac{\left(\cos\left(t\right)\right)^6}{2} + C$

4. $-\dfrac{7\,e^{-x^3}}{3} + C$

5. $\dfrac{12\,\sin\left(x^{\frac{5}{3}} + 1\right)}{5} + C$

6. $\ln\left(\left|5\,x^2 + 6\,x + 2\right|\right) + C$

7. -30

8. $\dfrac{8}{3} - \dfrac{8 \cdot e^{-1}}{3}$

9. 0

10. -4