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5c) $4\left(\frac{2^{-3}}{-3} - \frac{-2^{-3}}{-3}\right) = \frac{0}{0}$

5b) Eksisterer ikke fordi integralet blir 0.

12b) $\ldots = \frac{-8 \pm 4i}{4} = -8 \pm i$

5a) $\int \frac{3}{\sqrt[4]{x^3}} + \sqrt{4-2x}\, dx = \int 3 \ln x^{3/4} + (4+2x)^{1/2} dx$

$3 \ln x^{3/4} + \frac{1}{2}(4+2x)^{3/2} \Big|_1^2$

5a) $3\int_1^2 \frac{1}{\sqrt[4]{x^3}} dx = 3 \cdot \sqrt[4]{x^3} \ldots$

12a) $z(1+i) = -1+i$

$z = -1 + 0i$

5a) $\int_1^2 \sqrt{4-2x}\, dx = \int_1^2 \sqrt{4} - \sqrt{2x} = \int_1^2 2 - \int_1^2 2x^{1/2} dx \ldots$

5a) $\int \ldots + (4-2x)^{1/2} dx = \ldots + \frac{2}{3}(4x-x^2)^{3/2} \ldots$

12b) $2z(-2z+i)(-2z-i)$

12b) $\ldots z(2z+8) = -10$

$z = -10$ eller $2z + 8 = -10$ ...

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5a) $\int \sqrt{4-2x}\,dx = \int (\sqrt{4-2x})^2 = \int 16 - 4x^2 = \ldots$

13 a) $20 \int 1 + 3e^{-kt} = 20t \int 3e^{-kt}$

$= 20t \cdot \frac{-1}{k} \cdot 3e^{-kt} \ldots$

5 a) $\int_1^2 3x^{-3/4} + 2(2-x)^{1/2}\,dx = 6\int_1^2 x^{-3/4} + (2-x)^{1/2}\,dx \ldots$

5 b) $\int_0^1 |\cos(\pi(x))|\,dx = \left[\sin(\pi x)\right]_0^1 = \sin(\pi 1) - \sin(\pi 0)$

$= 0.055$

1 $\det A = 4$ $AB = \begin{bmatrix} 0 & 10 & -21 \\ -2 & 2 & -5 \end{bmatrix}$

5 c) $4\int_{-2}^2 \frac{1}{x^4}\,dx = 4\int_{-2}^2 x^{1/4}\,dx \ldots$

12a) $i + (1-i)z = 2z + 1$

$z = 2z + 2$

12a) $(1-i)z = 2z + 1 - i$

$z = \frac{2z + 1 - i}{1-i}$

$\frac{(1-i)z}{2z} = \frac{1-i}{1-i}$

5 c) $\int_{-2}^2 \frac{4}{x^4}\,dx = \ln x^4 \Big|_{-2}^2$

5 c) $\int_{-2}^2 \frac{4}{x^4} = \left[\frac{4 \ln x^5}{5} + c\right]_{-2}^2$

8 a) $V = 2\pi \int_0^2 x|x^3|\,dx = 2\pi\left(\frac{x^2}{2}\left|\frac{x^4}{4}\right| + c\right)_0^2$

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12 $e^{i-\frac{\pi}{2}}$ (i stede for $e^{i(-\frac{\pi}{2})} = e^{-\pi i/2}$)

5c $\int_{-2}^{2} \frac{4}{x^4}\,dx = \left[-\frac{4}{3}x^{-3}\right]_{-2}^{2} = -\frac{1}{3}$

12 b) ... $z(-2z+i)(-2z-i)$

... $z\left(\frac{i-2}{4} - \frac{i+2}{4}\right)$

2 $V_4 = \frac{1}{2}V_1 - \frac{10}{3}V_2 + 2V_3$

$V_4 = \begin{bmatrix} 2 \\ -0.3 \\ 0.5 \end{bmatrix} = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix} + \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix} + \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix}$

8 b) $\frac{dV}{dh} = \frac{dV}{dt} + \frac{dh}{dt}$

1 a) $B^T = \begin{bmatrix} 1 & 0 \\ 2 & 5 \\ 7 & -1 \end{bmatrix}, \begin{bmatrix} 7 & -1 \\ 5 & 2 \\ 0 & 1 \end{bmatrix}, \begin{bmatrix} 1 & 0 \\ 2 & 5 \\ -1 & 7 \end{bmatrix}$

6 a) $p(x) = x^4 - 5x + 3 \qquad p'(x) = 4x - 5$

1 a) $BA = \begin{bmatrix} -11 & 35 \\ 8 & -7 \\ -11 & 35 \end{bmatrix}, \qquad BA = \begin{bmatrix} 0 & 10 & -21 \\ -2 & 0 & -5 \end{bmatrix}$

5 c) $-\frac{4}{3\cdot 8} + \frac{4}{3\cdot 8}$ "det går ikke, vi får null under brøkstrehen"

12 a) $\left(... = \frac{-1+2i+1}{1+0-i^2}\right) \quad \frac{2i}{0} = 0 + 2i$

14 Ved bruk av EQUA er y enten $y = -2$ eller $y = -3$

$y = -2e^{-2x} - 3e^{-2x}$

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5 b) $\frac{1}{\pi}\sin(u)\Big|_0^{\pi} \rightarrow \frac{1}{\pi}\frac{\sin(\pi x)}{\pi}\Big|_0^{\pi} = \frac{\sin(\pi^2)}{\pi}$

5 c) ... $\frac{4}{4x^3}\ln(x^4)\Big|_{16}^{16}$ ...

11 $p(x) = 126$

5 a) $\int_1^2 \frac{3}{\sqrt[4]{x}} + \sqrt{4-2x}\,dx = \int_1^2 \frac{3}{x} + \sqrt{4} - \sqrt{2x}\,dx$ ...

5 c) $\int_{-2}^{2} \frac{4}{x^4} = 4(\ln|x|)^4$

5 a) $\int_1^2 \frac{3}{(x^3)^{1/4}} + \int_1^4 (4-2x)^{1/2}\,dx$

$= 3\ln|x^{3/4}| + c + \int_1^2 |4-2x|^{1/2}$ ...

5 b) $\int_0^1 |\cos(\pi x)|\,dx = \pi\int|\cos(x)|\,dx$

$= \pi[\sin x]_0^1 = \pi[\sin(1) - \sin(0)] \approx \underline{2,6435}$

5 c) $\int_{-2}^{2} \frac{4}{x^4}dx = \ldots = 4[\ln u]_{-16}^{16} = \underline{-4\pi i}$