

SUAR MUE340 6 Oct 2017

1a $\frac{-4.6+4}{0.2} = -3$ 1b $4 \cdot (-0.2) - 3.5 = -4.3$

1b $y = 4 + 16(x-2)$ $x = 2 - \frac{1}{4}$ 1c $f' = -(x-1)(x+2)$

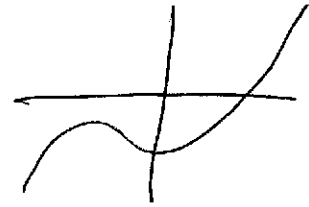
$\frac{-1}{-2} + \frac{1}{1} \rightarrow x$
 $x \leq -2$ or $x \geq 1$

1d $-1.6 + \frac{1.4}{-1}(-0.4) = -0.96$

2a $3x^2 + 8x = 0$ $\frac{-1}{-8/3} + \frac{1}{0} \rightarrow x$

2b 1.68

2c $\int_{-2}^2 4-x^2 = 2 \left[4x - \frac{x^3}{3} \right]_0^2 = 2 \cdot \frac{16}{3}$



3a $-2A + 3(Ax + B) = -6x + 5$ $A = -2$ $B = \frac{5 + 2A}{3} = \frac{1}{3}$

3b $y' = -\frac{5}{4}y$ $y = (e^{-\frac{5}{4}t})$ $y' = -\frac{5}{4}ce^{-\frac{5}{4}t}$ $c = 8$

3c $y = e^{-2t}(c_1 \cos 5t + c_2 \sin 5t)$ $y' = e^{-2t}(-2c_1 \cos 5t - 2c_2 \sin 5t - 5c_1 \sin 5t + 5c_2 \cos 5t)$
 $y(0) = c_1$ $y'(0) = -2c_1 + 5c_2$
 $c_1 = 5$ $c_2 = 2/5$

4a $1 - 2t - (-3) + 6(-5t) = 20$ $t = -\frac{1}{2}$ $(x, y, z) = (3, -3, \frac{5}{2})$

4b $2x - 3y - 6z = -5$ t.ex. $(2, 1, 1)$

4c $\left. \begin{array}{l} 55k + 15m = 10.2 \\ 15k + 5m = 9 \end{array} \right\} y = -1.68x + 6.84$

4d $\left. \begin{array}{l} k \cdot 1 + m = 5.6 \\ k \cdot 5 + m = -1.5 \end{array} \right\} \begin{array}{l} A = [1 \ \ 1; 2 \ \ 1; \dots; 5 \ \ 1] \\ b = [5.6; \dots; -1.5] \\ x = A \setminus b \end{array}$

5 Variabelsubst

6 $A = A(r, h)$ $V'(h) = 0$

7 $f' = Cf(M-f)$