

**00 12 12**

- $y = 1 - e^{-\sin x}$
- $1/3$
- $y = -x^3/24 + C_1 + C_2 e^{2x} + e^{-x}(C_3 \cos x\sqrt{3} + C_4 \sin x\sqrt{3})$
- $\pi(\frac{1}{3} - \frac{\ln 3}{4})$
- a)  $1/108$     b)  $|\text{felet}| < 1/108$
- $\frac{a(v_0 - v_1)}{v_0 v_1 \ln \frac{v_0}{v_1}}$

**01 04 21**

- $2 \pm i, 2, -1 \pm \sqrt{3}i$
- $y = \frac{1}{4}((2x - 3)e^x + 7e^{-x} + 12x - 4)$
- $\frac{1}{120n^4}$
- Om  $A = 3$ :  $-3/4$ , Om  $A \neq 3$ : Inget gränsvärde.
- $\pi/8$
- $(1 + (y')^2)y''' = 3y'(y'')^2$

**01 08 20**

- $\pm i, \pm(1 - 2i)$
- a)  $x^2 + x^5 - \frac{x^6}{6} + \frac{x^8}{2} - \frac{x^9}{6} + \frac{x^{10}}{120}$     b) 1
- a)  $\frac{4 - 3x^3}{2 + x^3}$     b)  $y = 1$
- a)  $\int_0^1 \sqrt{1 + 4x^2}$     b)  $2\pi \int_0^1 x^2 \sqrt{1 + 4x^2}$   
c)  $\pi \int_0^1 x^4 = \frac{\pi}{5}$
- a) Konvergent b) Divergent
- $\frac{x^3}{12} + \frac{x^2}{2} - \frac{c}{x} + \frac{3c}{4} - \frac{5}{3}$

**01 12 17**

- $3 - i, 2 + 3i$
- $y = Ae^x + Be^{2x} + x^2/2 + 3x/2 + 7/4$
- $1 + x + x^2/2 - x^4/8 + x^5 B(x)$
- a)  $y = \frac{1}{2e^{-x} - 1}$     b)  $y = -1$     c)  $y = 0$
- $2\pi^2 - 4\pi$
- $R = 10, n = 25000$