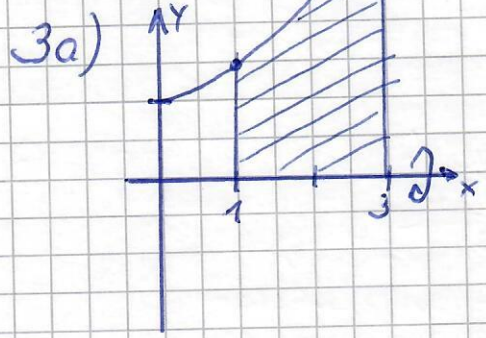
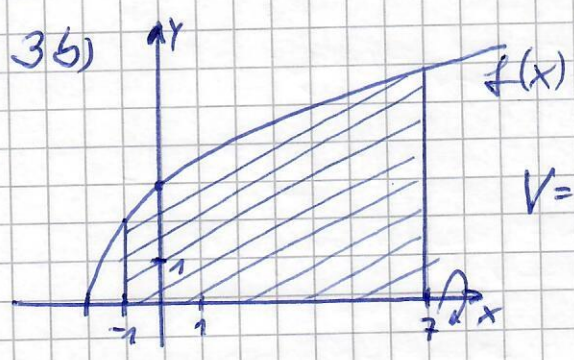


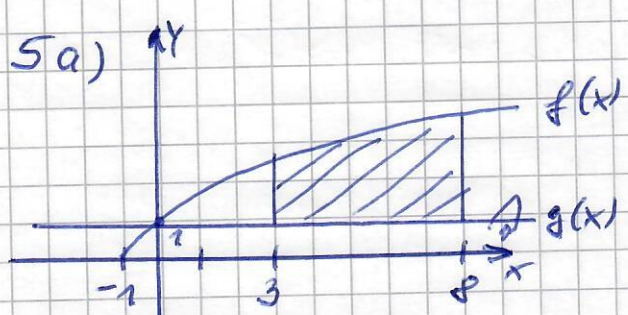
Lösungen HA f(x)
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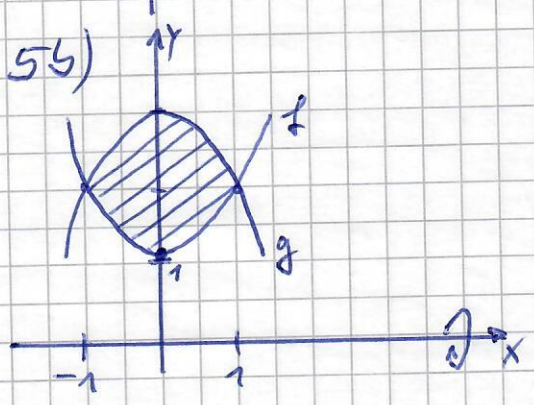
$$V = \pi \cdot \int_1^3 \left(\frac{1}{2}x^2 + 1\right)^2 dx = \frac{683}{30} \pi \approx \underline{\underline{71,5 VE}}$$



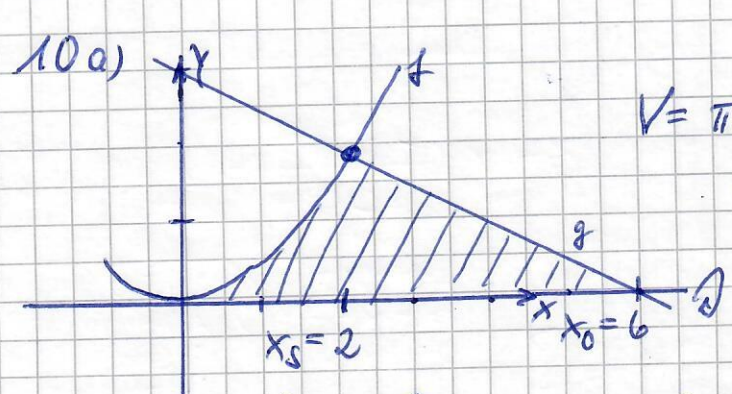
$$V = \pi \cdot \int_{-1}^7 \left(3\sqrt{x+2}\right)^2 dx = 360\pi \approx \underline{\underline{1131 VE}}$$



$$V = \pi \cdot \int_3^8 \left(\sqrt{x+1}\right)^2 - (-1)^2 dx = \frac{95}{2} \pi \approx \underline{\underline{149,4 VE}}$$



$$V = \pi \cdot \int_{-1}^1 \left(-x+3\right)^2 - \left(x^2+1\right)^2 dx = 10\sqrt{3}\pi \approx \underline{\underline{33,51 VE}}$$



$$V = \pi \int_0^2 \left(\frac{1}{2}x^2\right)^2 dx + \pi \int_2^6 \left(-\frac{1}{2}x+3\right)^2 dx \approx \underline{\underline{21,78 VE}}$$

NR: $\frac{1}{2}x^2 = -\frac{1}{2}x + 3 \wedge x_s = 2$
 NST: g(x) bei $x_0 = 6$

I $\approx 14,137$	IV $\approx 13,79$	13)
II $\approx 14,137$	V $\approx 16,93$	
III $\approx 14,137$		

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$$I) V = \pi \cdot \int_0^{1,5} 2^2 - 1^2 dx = \pi \cdot \int_0^{1,5} 3 dx = \pi \cdot [3x]_0^{1,5} = \underline{\underline{4,5\pi VE}}$$

$$II) V = \pi \cdot \int_2^{3,5} 2,5^2 - (x-1)^2 dx \approx \underline{\underline{14,137 VE}} (= 4,5\pi VE)$$

$$III) V = \pi \cdot 2 \cdot \int_{2,5}^4 (x-2)^2 - 0,5^2 dx \approx \underline{\underline{14,137 VE}} (= 4,5\pi VE)$$

$$IV) V = \pi \cdot \int_{5,5}^{7,5} \left(e^{\frac{1}{2}(x-\frac{11}{2})^2} \right)^2 - 1^2 dx \approx \underline{\underline{13,79 VE}}$$

$$V) V = \pi \cdot \int_{7,75}^{10,25} (2 - (x-9)^2)^2 - 0,5^2 dx \approx \underline{\underline{16,93 VE}}$$