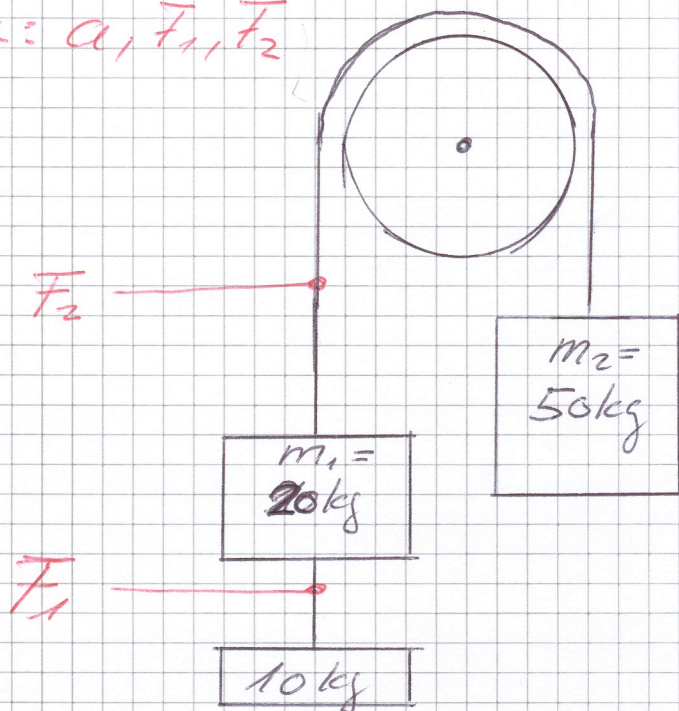
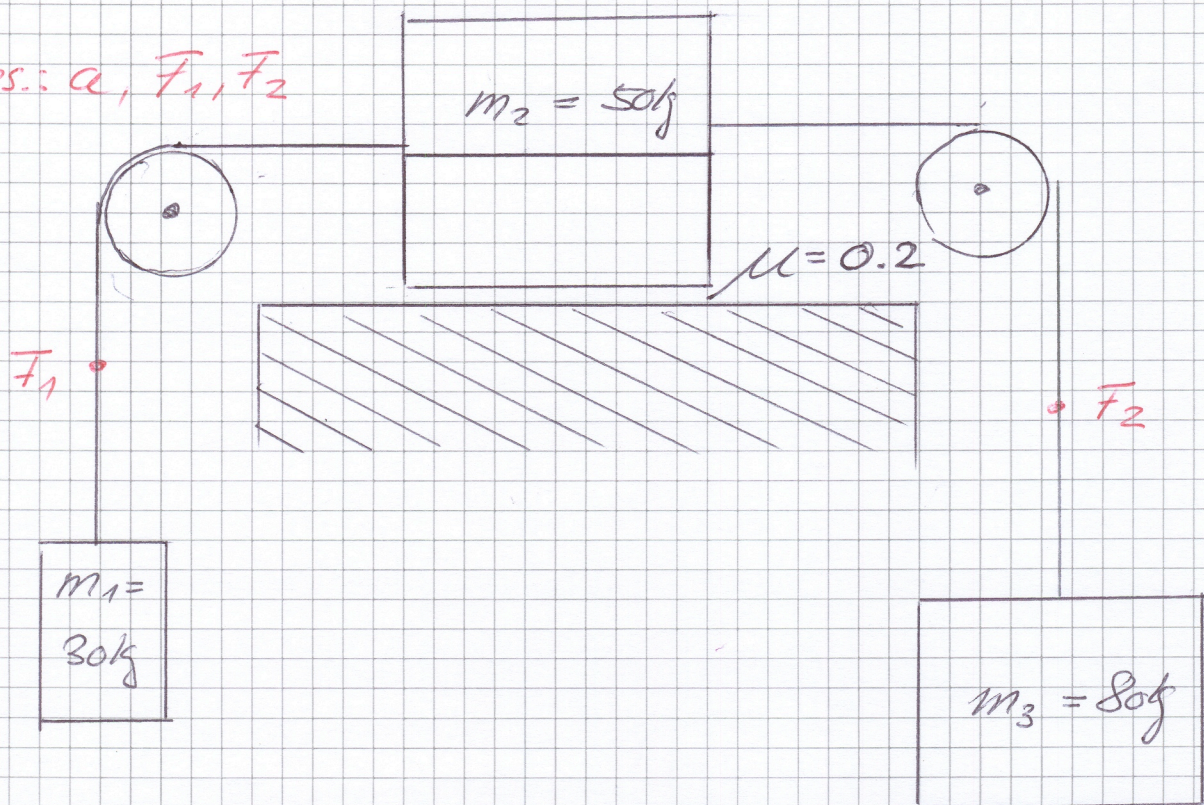


Aufgaben beschleunigte Systeme

1) Ges.: a, F_1, F_2



2) ges.: a, F_1, F_2



1

$$F_{\text{res}} = 500\text{N} - 200\text{N} - 100\text{N} = 200\text{N}$$

$$m_{\text{tot}} = 80\text{kg}$$

$$a = \frac{F}{m} = \frac{200\text{N}}{80\text{kg}} = \underline{\underline{2.5\text{m/s}^2}}$$

$$F_2 = 300\text{N} + 30\text{kg} \cdot 2.5\text{m/s}^2$$

$$= 300\text{N} + 75\text{N} = \underline{\underline{375\text{N}}}$$

$$F_1 = 100\text{N} + 10\text{kg} \cdot 2.5\text{m/s}^2 = \underline{\underline{125\text{N}}}$$

2

$$F_{G_3} = 800\text{N}, F_{G_1} = 300\text{N}$$

$$F_{\text{reib}} = 0.2 \cdot 500\text{N} = 100\text{N}$$

$$F_{\text{res}} = 800\text{N} - 100\text{N} - 300\text{N} = 400\text{N}$$

$$m_{\text{tot}} = 160\text{kg}; a = \frac{400\text{N}}{160\text{kg}} = \underline{\underline{2.5\text{m/s}^2}}$$

$$F_1 = 300\text{N} + 2.5\text{m/s}^2 \cdot 30\text{kg} = \underline{\underline{375\text{N}}}$$

$$F_2 = F_{\text{reib}} + m_2 \cdot a + F_1$$

$$= 100\text{N} + 125\text{N} + 375\text{N} = \underline{\underline{600\text{N}}}$$