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February 8, 2025

Problem 3

Suppose three mass measurements are taken as follows: 210 ± 15 kg, 28 ± 5 kg, and 33 ± 6 kg. Find the sum of the masses, m_{m}.

$$m = m_1 + m_2 + m_3$$
$$m = 210\,\mathrm{kg} + 28\,\mathrm{kg} + 33\,\mathrm{kg}$$
$$= 271\,\mathrm{kg}.$$

$$\Delta m = \sqrt{(15\,\mathrm{kg})^2 + (5\,\mathrm{kg})^2 + (6\,\mathrm{kg})^2}$$
$$= 16.9\,\mathrm{kg}.$$

$$m_{\mathrm{m}} = 271 \pm 16.9\,\mathrm{kg}.$$