$$m(\text{nylon}) = \frac{20{,}000 \text{ g}}{226.32 \text{ g/mol}} = 88.37 \text{ mol}$$

Since, according to the chemical equation given above, each mole of nylon 6,6 that is produced requires one mole each of adipic acid and hexamethylene diamine, with two moles of water as the by-product. The masses corresponding to 88.37 moles of adipic acid and hexamethylene diamine are as follows:

$$m(\text{adipic}) = (88.37 \text{ mol})(146.14 \text{ g/mol}) = 12{,}914 \text{ g} = 12.914 \text{ kg}$$

$$m(\text{hexamethylene}) = (88.37 \text{ mol})(116.21 \text{ g/mol}) = 10{,}269 \text{ g} = 10.269 \text{ kg}$$