Problem 7: It requires 5 tablespoons of flour to make 15 gulab jamun. Given that there are 16 tablespoons in a cup, how many cups of flour are required to make 200 gulab jamun? Express your answer as a mixed number.

(Source: Mathcounts 2023 State Sprint Exam)

This is a conversions problem. We will use the conversion factors $\frac{5 \text{ tablespoons}}{15 \text{ gulab jamun}}$ and $\frac{1 \text{ cup}}{16 \text{ tablespoons}}$.

$$200 \text{ gulab jamun} \times \frac{5 \text{ tablespoons}}{15 \text{ gulab jamun}} \times \frac{1 \text{ cup}}{16 \text{ tablespoons}} = \frac{200}{48} \text{ cups} = \frac{25}{6} \text{ cups} = \boxed{4\frac{1}{6} \text{ cups}}$$

Thus $\boxed{4\frac{1}{6} \text{ cups}}$ are required to make 200 gulab jamun.