$$x^2 + 18x + \frac{1}{3}x^2 = \left(1 + \frac{1}{3}\right)x^2 + 18x = 1200 \quad \textit{soit :} \quad x^2 + \frac{27}{2}x = 900$$

$$x^2 + \frac{27}{2}x + \left(\frac{27}{4}\right)^2 = \left(x + \frac{27}{4}\right)^2 = 900 + \frac{729}{16} = \frac{15\,129}{16} \quad \textit{donc :} \quad x = \frac{123}{4} - \frac{27}{4} = 24; \quad x^2 = 576$$