74. Neglecting the buoyant force caused by air, then the 30 N value is interpreted as the true weight W of the object. The buoyant force of the water on the object is therefore $30 - 20 = 10$ N, which means

$$F_b = \rho_w V g \quad \Longrightarrow \quad V = \frac{10\text{N}}{(1000\,\text{kg/m}^3)\,(9.8\,\text{m/s}^2)} = 1.02 \times 10^{-3}\ \text{m}^3$$

is the volume of the object. When the object is in the second liquid, the buoyant force is $30 - 24 = 6$ N, which implies

$$\rho_2 = \frac{6\,\text{N}}{(9.8\,\text{m/s}^2)\,(1.02 \times 10^{-3}\,\text{m}^3)} = 600\ \text{kg/m}^3\ .$$