2. We note that the container is cylindrical, the important aspect of this being that it has a uniform cross-section (as viewed from above); this allows us to relate the pressure at the bottom simply to the total weight of the liquids. Using the fact that $1\,\mathrm{L} = 1000\,\mathrm{cm}^3$, we find the weight of the first liquid to be

$$\begin{aligned} W_1 &= m_1 g = \rho_1 V_1 g \\ &= (2.6\,\mathrm{g/cm}^3)(0.50\,\mathrm{L})(1000\,\mathrm{cm}^3/\,\mathrm{L})(980\,\mathrm{cm/s}^2) = 1.27 \times 10^6\,\mathrm{g{\cdot}cm/s}^2 = 12.7\ \mathrm{N}\ . \end{aligned}$$

In the last step, we have converted grams to kilograms and centimeters to meters. Similarly, for the second and the third liquids, we have

$$W_2 = m_2 g = \rho_2 V_2 g = (1.0\,\mathrm{g/cm}^3)(0.25\,\mathrm{L})(1000\,\mathrm{cm}^3/\,\mathrm{L})(980\,\mathrm{cm/s}^2) = 2.5\,\mathrm{N}$$

and

$$W_3 = m_3 g = \rho_3 V_3 g = (0.80\,\mathrm{g/cm}^3)(0.40\,\mathrm{L})(1000\,\mathrm{cm}^3/\mathrm{L})(980\,\mathrm{cm/s}^2) = 3.1\ \mathrm{N}\ .$$

The total force on the bottom of the container is therefore $F = W_1 + W_2 + W_3 = 18\,\mathrm{N}$.