

1. **Fórmula de D'Alembert:** $u(x; r, t) = \frac{1}{2}[g(x+t) - g(x-t)] + \frac{1}{2} \int_{x-t}^{x+t} h(y) dy$
2. **Medias Esféricas:** $U(r, t; x) = \int_{\partial B(x, r)} u(y, t) dy$, $U_{tt} - U_{rr} - \frac{n-1}{r} U_r = 0$ s.a. $U = G, U = H$ en $\mathbb{R}_+ \times \{t = 0\}$
3. **Fórmula de Khirchhoff:** $u(x, t) = \int_{\partial B(x, t)} th(y) + g(y) + Dg(y) \cdot (y - x) dS(y)$, válida sólo para $n = 3$.
4. **Fórmula de Poisson 2D:** $u(x, t) = \frac{1}{2} \int_{B(x, t)} \frac{tg(y) + t^2 h(y) + t Dg(y) \cdot (y - x)}{(t^2 - |y - x|^2)^{\frac{1}{2}}} dS(y)$
5. **Fórmulas de Poisson 3D:** $u(x, t) = \partial_t \left(t \int_{\partial B(x, t)} g dS \right) + \frac{1}{2r} \int_{\partial B(x, t)} h(y) dS(y) = \int_{\partial B(x, t)} th(y) + g(y) + Dg(y) \cdot (y - x) dS(y)$
6. **Solución homogénea general n impar:**

$$u(x, t) = \frac{1}{\gamma_n} \left[\partial_t \left(\frac{1}{t} \partial_t \right)^{\frac{n-3}{2}} \left(t^{n-2} \int_{\partial B(x, t)} g dS \right) + \left(\frac{1}{t} \partial_t \right)^{\frac{n-3}{2}} \left(t^{n-2} \int_{\partial B(x, t)} h dS \right) \right],$$

$$\gamma_n = 1 \cdot 3 \cdot 5 \cdots (n-2)$$

7. **Solución homogénea general n par:**

$$u(x, t) = \frac{1}{\gamma_n} \left[\partial_t \left(\frac{1}{t} \partial_t \right)^{\frac{n-2}{2}} \left(t^n \int_{B(x, t)} \frac{g(y)}{(t^2 - |y - x|^2)^{\frac{1}{2}}} dy \right) + \left(\frac{1}{t} \partial_t \right)^{\frac{n-2}{2}} \left(t^n \int_{B(x, t)} \frac{h(y)}{(t^2 - |y - x|^2)^{\frac{1}{2}}} dy \right) \right],$$

$$\gamma_n = 2 \cdot 4 \cdot 6 \cdots n$$

1. **Solución no-homogénea:** $u(x, t) = \int_0^t u(x, t; s) ds$, donde para $t \geq s$, $u_{tt}(\cdot; s) - \Delta u(\cdot; s) = 0$, s.a. $u(\cdot; s) = 0$, $u_{t(\cdot; s)} = f(\cdot, s)$ en $t = s$.