б) $x(t) = t^{-\frac{1}{3}}$, $y(t) = t$, $r = 1$, $L_1^2(0;1)$.

$$\rho(x(t), y(t)) = \max_{0<t<1} \left| \int \left(t^{-\frac{2}{3}} - t^2\right) dt \right| = \max_{0<t<1} \left| 3t^{\frac{1}{3}} - \frac{t^3}{3} \right| =$$

$$= \lim_{t \to 1} \left(3t^{\frac{1}{3}} - \frac{t^3}{3}\right) = 3 - \frac{1}{3} = 2\frac{2}{3} > 1\,(r) \Rightarrow$$ не принадлежит шару с $r = 1$.

$$\rho(x(t), y(t)) = \max_{0<t<1} \sqrt{\int_0^1 \left(t^{-\frac{1}{3}} - t\right)^2 dt} = \max_{0<t<1} \sqrt{\int_0^1 \left(t^{-\frac{2}{3}} - 2t t^{-\frac{1}{3}} + t^2\right) dt} =$$

$$= \max_{0<t<1} \sqrt{3t^{\frac{1}{3}} - \frac{6}{5} t t^{\frac{2}{3}} + \frac{t^3}{3}} \Big|_0^1 = \sqrt{3 - \frac{6}{5} + \frac{1}{3}} = \sqrt{1\frac{4}{15} + \frac{1}{3}} =$$

$$= \sqrt{1\frac{17}{15}} > 1\,(r) \Rightarrow$$ не принадлежит шару с $r = 1$.