1. Вывести $(\forall x)P(g(x)), (\forall x)(\exists y)x \approx g(y) \ \vdash \ (\forall x)P(x)$

$$\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{(P(x))^x_t, t \approx x \ \vdash \ (P(x))^x_x}{P(t), x \approx t \ \vdash \ P(x)}\text{(зам. экв.)}}{P(g(y)), x \approx g(y) \ \vdash \ P(x)}\text{(своб. конкр.)}}{(P(g(x)))^x_y, x \approx g(y) \ \vdash \ P(x)}\text{(}\forall\text{ лев)}}{(\forall x)P(g(x)), x \approx g(y) \ \vdash \ P(x)}\text{(}\exists\text{ лев)}}{(\forall x)P(g(x)), (\exists y)x \approx g(y) \ \vdash \ P(x)}\text{(}\forall\text{ лев)}}{(\forall x)P(g(x)), (\forall x)(\exists y)x \approx g(y) \ \vdash \ P(x)}\text{(}\forall\text{ прав)}}{(\forall x)P(g(x)), (\forall x)(\exists y)x \approx g(y) \ \vdash \ (\forall x)P(x)}$$

2. Вывести $(\forall x)(\forall y)(\forall z)(R(x,y) \wedge R(y,z) \to P(y)), (\forall x)(\exists y)R(x,y) \ \vdash \ (\exists x)P(x)$

$$\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{(R(x,y))^y_x \ \vdash \ R(x,x)}{((R(x,y) \wedge R(y,z) \to P(y))^y_x)^z_x, (R(x,y))^y_x \ \vdash \ R(x,x)}\text{(ут, пер)} \quad \dfrac{\dfrac{(R(x,y) \to P(y))^y_x \ \vdash \ R(x,x) \to P(x)}{((R(x,y) \wedge R(y,z) \to P(y))^y_x)^z_x \ \vdash \ R(x,x) \to P(x)}\text{(экв. зам.)}}{((R(x,y) \wedge R(y,z) \to P(y))^y_x)^z_x, (R(x,y))^y_x \ \vdash \ R(x,x) \to P(x)}\text{(ут)}}{((R(x,y) \wedge R(y,z) \to P(y))^y_x)^z_x, (R(x,y))^y_x \ \vdash \ P(x)}\text{(уд. }\to\text{)}}{((\forall z)(R(x,y) \wedge R(y,z) \to P(y)))^y_x, (R(x,y))^y_x \ \vdash \ P(x)}\text{(}\forall\text{ лев)}}{(\forall y)(\forall z)(R(x,y) \wedge R(y,z) \to P(y)), (R(x,y))^y_x \ \vdash \ P(x)}\text{(}\forall\text{ лев)}}{(\forall x)(\forall y)(\forall z)(R(x,y) \wedge R(y,z) \to P(y)), (R(x,y))^y_x \ \vdash \ P(x)}\text{(}\forall\text{ лев)}}{(\forall x)(\forall y)(\forall z)(R(x,y) \wedge R(y,z) \to P(y)), (\exists y)R(x,y) \ \vdash \ P(x)}\text{(}\exists\text{ лев)}}{(\forall x)(\forall y)(\forall z)(R(x,y) \wedge R(y,z) \to P(y)), (\forall x)(\exists y)R(x,y) \ \vdash \ P(x)}\text{(}\forall\text{ лев)}}{(\forall x)(\forall y)(\forall z)(R(x,y) \wedge R(y,z) \to P(y)), (\forall x)(\exists y)R(x,y) \ \vdash \ (\exists x)P(x)}\text{(}\exists\text{ прав)}$$