t24_integr19 (TMZ9HL4cEfe4vETCJZFhcBWR4NVpUU2YEhM)

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Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_euclid : \iota \Rightarrow \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_integra5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_nfcont\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_integr15 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12\_euclid : \iota \Rightarrow \iota$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12\_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\forall X2.(v1\_xreal\_0\ X2) \Rightarrow (\forall X3.(v1\_xreal\_0\ X3) \Rightarrow (\forall X4.(v1\_xreal\_0\ X4) \Rightarrow (\forall X5.((\neg v1\_xboole\_0\ X5) \wedge (m2\_subset\_1\ X5\ k1\_numbers\ k5\_numbers)) \Rightarrow (\forall X6.((v1\_funct\_1\ X6) \wedge (m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (k1\_euclid\ X5))))) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \wedge ((r1\_xxreal\_0\ X2\ X3) \wedge ((r1\_integr15\ X5\ (k3\_integra5\ X0\ X1)\ X6) \wedge ((r1\_integra5\ (k3\_integra5\ X0\ X1)\ (k1\_nfcont\_4\ X5\ k1\_numbers\ X6)) \wedge ((v3\_integr15\ (k2\_partfun1\ k1\_numbers\ (k1\_euclid\ X5)\ X6\ (k3\_integra5\ X0\ X1))\ X5) \wedge ((r1\_tarski\ (k3\_integra5\ X0\ X1)\ (k1\_relset\_1\ k1\_numbers\ X6)) \wedge ((X2 \in k3\_integra5\ X0\ X1) \wedge ((X3 \in k3\_integra5\ X0\ X1) \wedge (\forall X7.(v1\_xreal\_0\ X7) \Rightarrow ((X7 \in k3\_integra5\ X2\ X3) \Rightarrow (r1\_xxreal\_0\ (k12\_euclid\ (k7\_partfun1\ (k1\_euclid\ X5)\ X6\ X7))\ X4)))))))))) \Rightarrow (r1\_xxreal\_0\ (k12\_euclid\ (k12\_integr15\ X3\ X2\ X5\ X6))\ (k11\_binop\_2\ X4\ (k10\_binop\_2\ X3\ X2)))))))))) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow(\forall X2.(v1\_xreal\_0\ X2)\Rightarrow(\forall X3.(v1\_xreal\_0\ X3)\Rightarrow(\forall X4.(v1\_xreal\_0\ X4)\Rightarrow(\forall X5.((\neg v1\_xboole\_0\ X5)\wedge(m2\_subset\_1\ X5\ k1\_numbers\ k5\_numbers))\Rightarrow(\forall X6.((v1\_funct\_1\ X6)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (k1\_euclid\ X5)))))\Rightarrow(((r1\_xxreal\_0\ X0\ X1)\wedge((r1\_xxreal\_0\ X2\ X3)\wedge((r1\_integr15\ X5\ (k3\_integra5\ X0\ X1)\ X6)\wedge((r1\_integra5\ (k3\_integra5\ X0\ X1)\ (k1\_nfcont\_4\ X5\ k1\_numbers\ X6))\wedge((v3\_integr15\ (k2\_partfun1\ k1\_numbers\ (k1\_euclid\ X5)\ X6\ (k3\_integra5\ X0\ X1))\ X5)\wedge((r1\_tarski\ (k3\_integra5\ X0\ X1)\ (k1\_relset\_1\ k1\_numbers\ X6))\wedge((X2\in k3\_integra5\ X0\ X1)\wedge((X3\in k3\_integra5\ X0\ X1)\wedge(\forall X7.(v1\_xreal\_0\ X7)\Rightarrow((X7\in k3\_integra5\ X2\ X3)\Rightarrow(r1\_xxreal\_0\ (k12\_euclid\ (k7\_partfun1\ (k1\_euclid\ X5)\ X6\ X7))\ X4)))))))))))\Rightarrow(r1\_xxreal\_0\ (k12\_euclid\ (k12\_integr15\ X2\ X3\ X5\ X6))\ (k11\_binop\_2\ X4\ (k10\_binop\_2\ X3\ X2))))))))))) \tag{2}$$

Theorem 1

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow(\forall X2.(v1\_xreal\_0\ X2)\Rightarrow(\forall X3.(v1\_xreal\_0\ X3)\Rightarrow(\forall X4.(v1\_xreal\_0\ X4)\Rightarrow(\forall X5.((\neg v1\_xboole\_0\ X5)\wedge(m2\_subset\_1\ X5\ k1\_numbers\ k5\_numbers))\Rightarrow(\forall X6.((v1\_funct\_1\ X6)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (k1\_euclid\ X5)))))\Rightarrow(((r1\_xxreal\_0\ X0\ X1)\wedge((r1\_xxreal\_0\ X2\ X3)\wedge((r1\_integr15\ X5\ (k3\_integra5\ X0\ X1)\ X6)\wedge((r1\_integra5\ (k3\_integra5\ X0\ X1)\ (k1\_nfcont\_4\ X5\ k1\_numbers\ X6))\wedge((v3\_integr15\ (k2\_partfun1\ k1\_numbers\ (k1\_euclid\ X5)\ X6\ (k3\_integra5\ X0\ X1))\ X5)\wedge((r1\_tarski\ (k3\_integra5\ X0\ X1)\ (k1\_relset\_1\ k1\_numbers\ X6))\wedge((X2\in k3\_integra5\ X0\ X1)\wedge((X3\in k3\_integra5\ X0\ X1)\wedge(\forall X7.(v1\_xreal\_0\ X7)\Rightarrow((X7\in k3\_integra5\ X2\ X3)\Rightarrow(r1\_xxreal\_0\ (k12\_euclid\ (k7\_partfun1\ (k1\_euclid\ X5)\ X6\ X7))\ X4)))))))))))\Rightarrow((r1\_xxreal\_0\ (k12\_euclid\ (k12\_integr15\ X2\ X3\ X5\ X6))\ (k11\_binop\_2\ X4\ (k10\_binop\_2\ X3\ X2)))\wedge(r1\_xxreal\_0\ (k12\_euclid\ (k12\_integr15\ X3\ X2\ X5\ X6))\ (k11\_binop\_2\ X4\ (k10\_binop\_2\ X3\ X2))))))))))$$