

# t27\_power (TMLN- MjTHAEsT9cpjyz3GMRi5S5z3UZgwRuo)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k3\_power : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_prepower : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $k4\_prepower : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow ((\neg r1\_xxreal\_0 X0 k6\_numbers) \Rightarrow (k9\_prepower \\ & X0 (k2\_xcmplx\_0 X1 X2) = k3\_xcmplx\_0 (k9\_prepower X0 X1) (k9\_prepower \\ & X0 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (v1\_xreal\_0 (k2\_xcmplx\_0 X0 X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (v1\_xreal\_0 (k3\_power X0 X1)) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (((\neg r1\_xxreal\_0 X0 k6\_numbers) \Rightarrow ((X2 = k3\_power \\ & X0 X1) \Leftrightarrow (X2 = k9\_prepower X0 X1))) \wedge (((X0 = k6\_numbers) \Rightarrow ((r1\_xxreal\_0 \\ & X1 k6\_numbers) \vee ((X2 = k3\_power X0 X1) \Leftrightarrow (X2 = k6\_numbers)))) \wedge ((v1\_int\_1 \\ & X1) \Rightarrow ((X2 = k3\_power X0 X1) \Leftrightarrow (\exists X3.(v1\_int\_1 X3) \wedge ((X3 = X1) \wedge \\ & (X2 = k4\_prepower X0 X3)))))))))) \end{aligned} \tag{4}$$

## Theorem 1

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow ((\neg r1\_xxreal\_0 X0 k6\_numbers) \Rightarrow (k3\_power X0 ( \\ & k2\_xcmplx\_0 X1 X2) = k3\_xcmplx\_0 (k3\_power X0 X1) (k3\_power X0 X2)))))) \end{aligned}$$