62 Simplify (no proof)

(a) *null*, *nil*

(b) *null*; *nil*

(c) **nil*

(d) [*null*]

(e) [**null*]

After trying the question, scroll down to the solution.

(a) $null, nil$

§ nil

according to the identity law $null, A = A$

(b) $null; nil$

§ $null$

according to the identity law $S; nil = S$

(c) $*nil$

§ nil

Informally, $*nil = nil , nil;nil , nil;nil;nil , ... = nil, nil, nil, ... = nil$

Formally, the proof requires induction.

(d) $[null]$

§ $null$

according to the distribution of list formation over bunch union

(e) $[*null]$

§ $[nil]$

Informally,

$*null = nil , null , null;null , null;null;null , ... = nil, null, null, null, ... = nil$

So $[*null] = [nil]$. Formally, the proof requires induction.