Problem of the Week
Problem B
A Walk in the Woods

Cassie takes a walk through the woods behind her house. She notices that there is a row of trees which seem to follow a pattern. There are pines, junipers, and maples, all 2 m apart from one another. There are 70 pines in total. The junipers are placed one after every 3rd pine, and the maples are located one after every third juniper. At the end of the row, there is a line of 10 birch saplings which start 75 cm from the other trees, and are spaced 75 cm apart.

a) Form a row of the symbols P, J, M, and B which illustrates the pattern of Pines, Junipers, Maples, and Birch saplings.

b) How long is this row of trees?

c) Once they mature, the pines are 25 m high, and the maples are 17 m high. What is the total height of the pines and maples?

Strands: Patterning and Algebra, Number Sense and Numeration