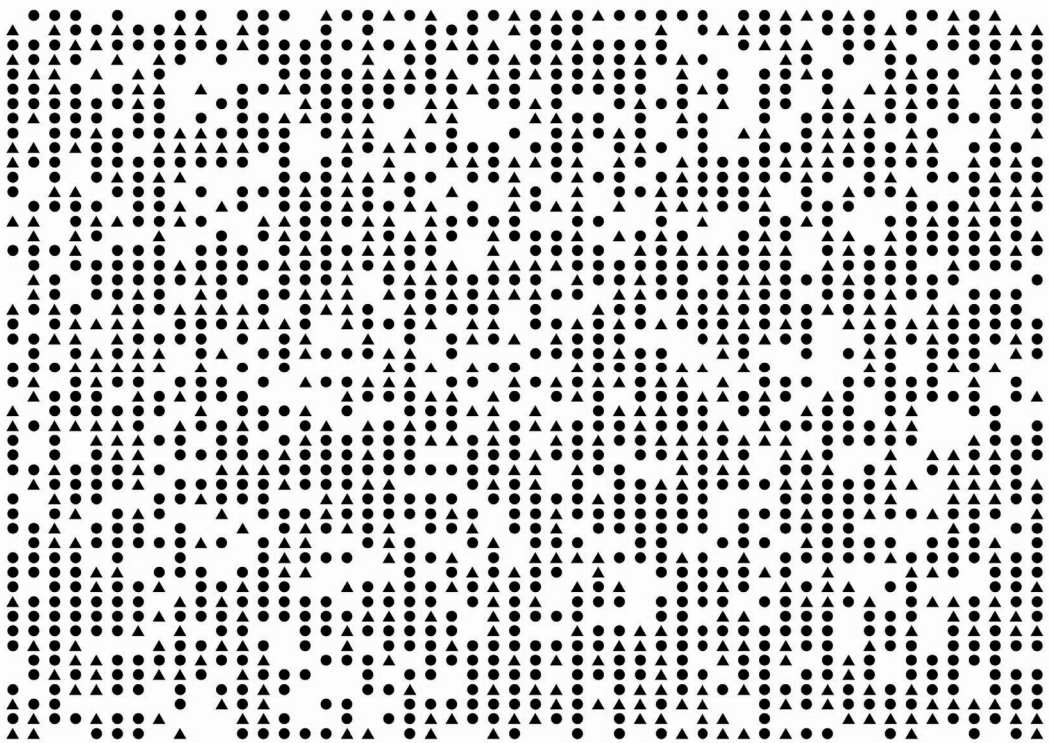
Counting trees



- ● The circles show old trees
- ▲ The diamonds show young trees

This diagram shows trees in a plantation.
The circles show old trees and the diamonds show young trees.

Counting trees

The National Trust asks Tom to estimate how many trees there are of each type, but it would take too long for him to count them all, one-by-one.

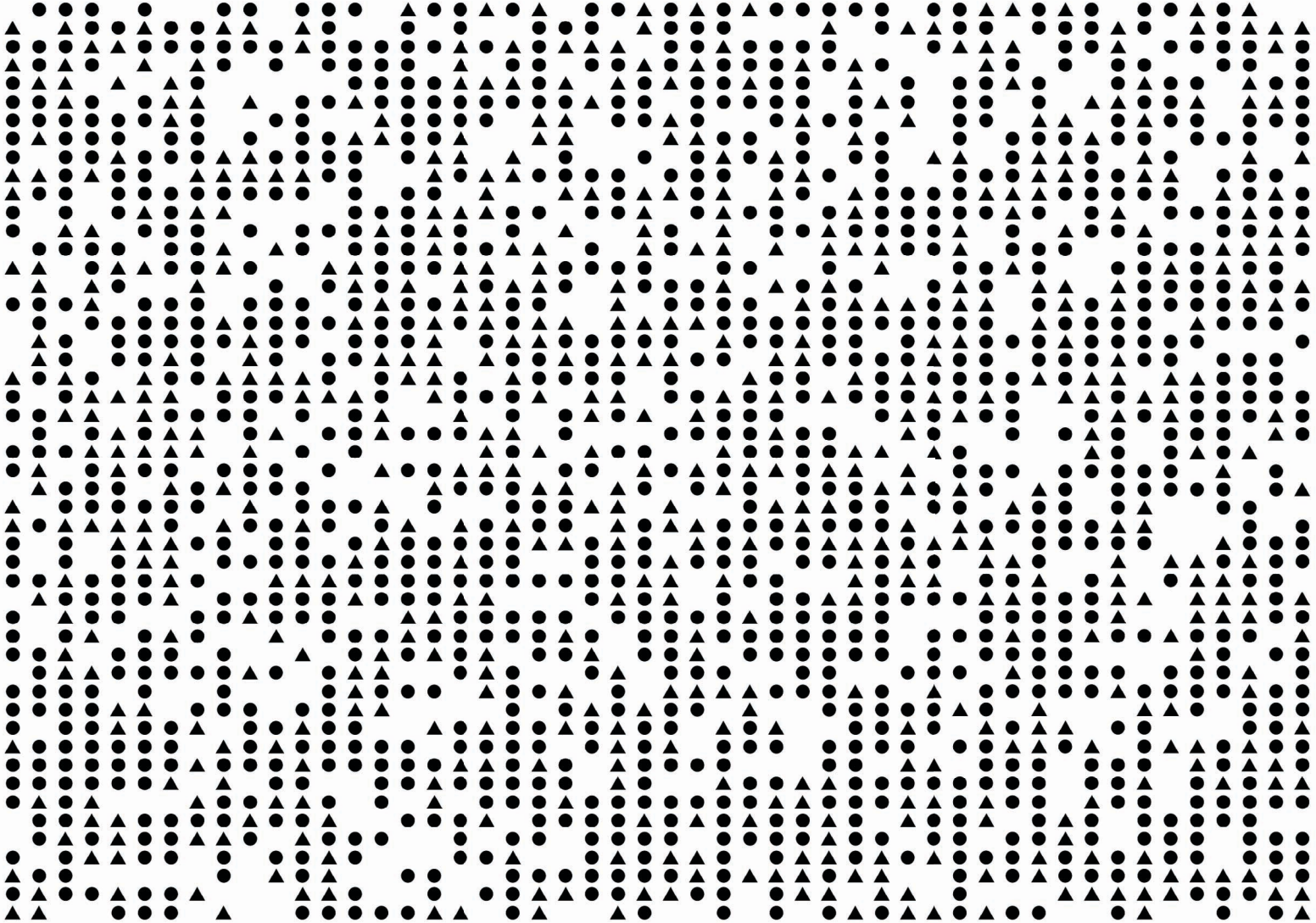
1. Think of a method Tom could use to estimate the number of trees of each type. Explain the method fully

2. Use your method to estimate the number of:

(a) Old trees

(b) Young trees

Counting trees



Counting trees

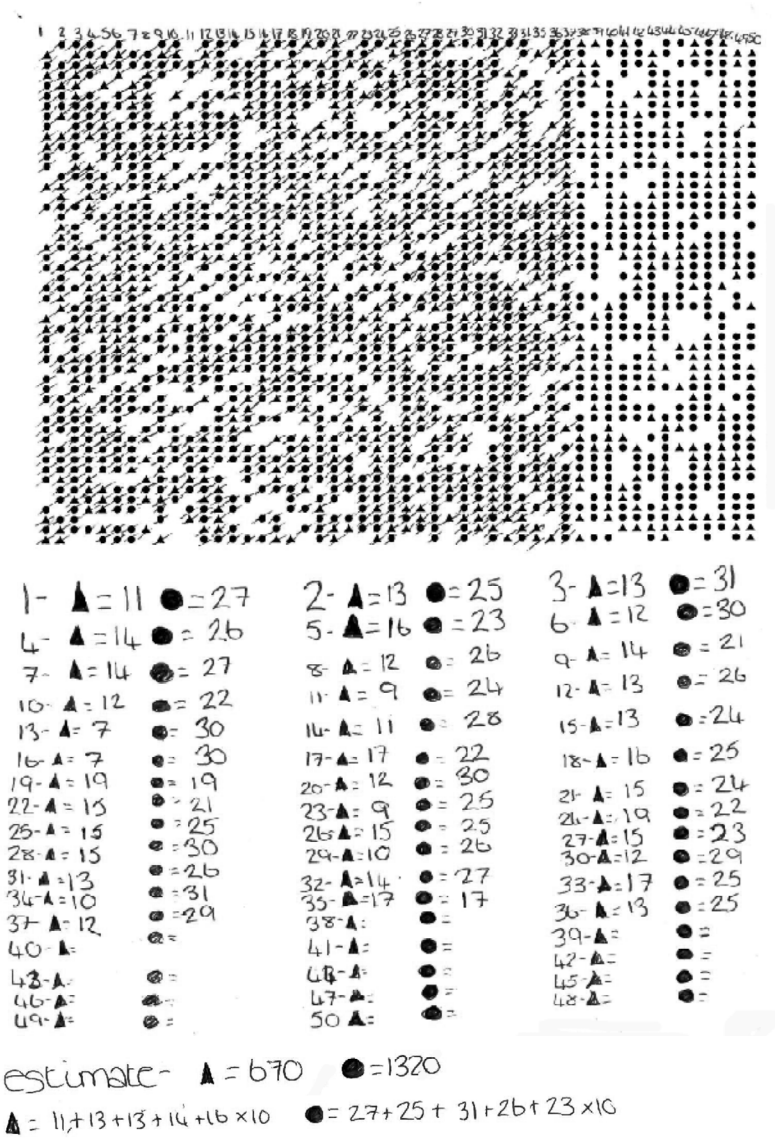
Follow-up task for students

Look carefully at the following extracts of work from other students. Imagine you are their teacher. Go through each piece of work and write comments on each one.

- Have they chosen a sensible method?
- Are the calculations correct?
- Are the conclusions sensible?
- Is the work easy to understand?

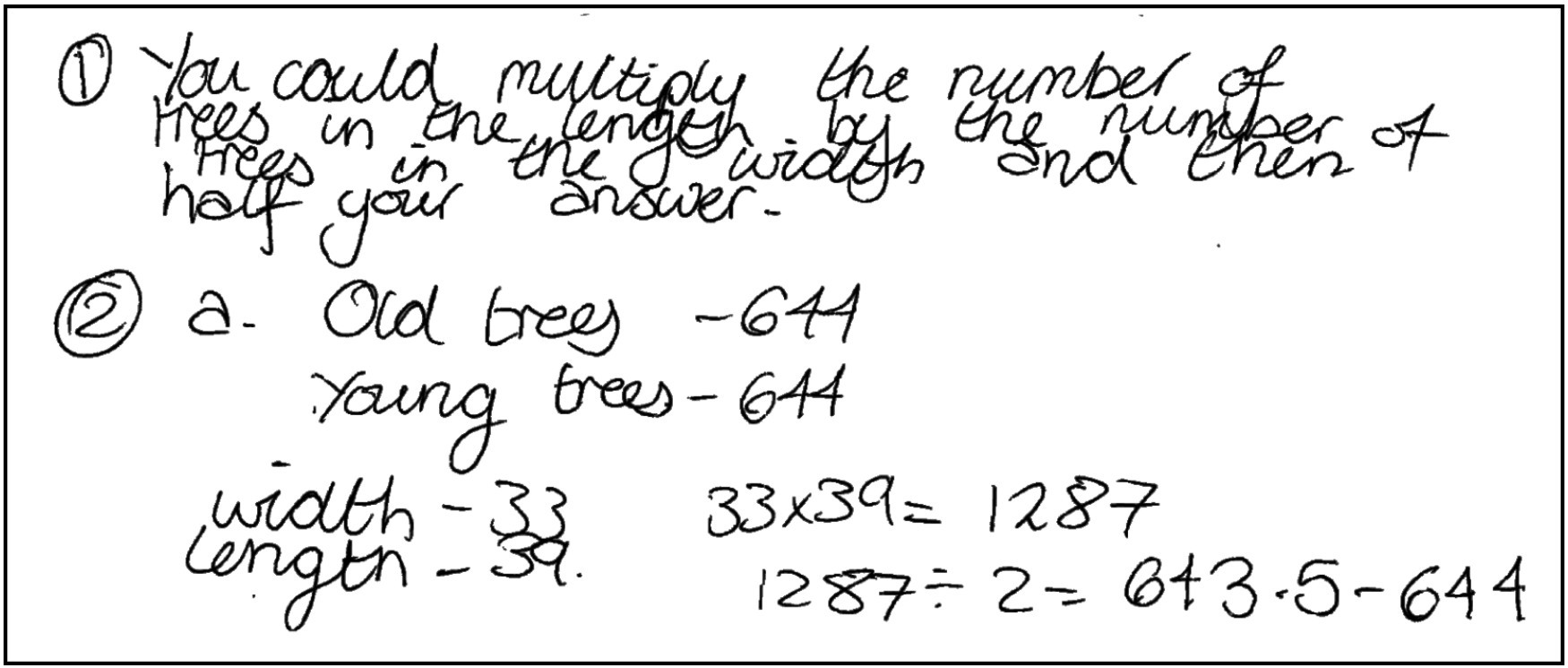
Counting trees

Sample response: Sarah



Counting trees

Sample response: Laura



Counting trees

Sample response: Jenny

1. there are 38 trees in each column
there are around 11 young trees
and around 27 old ones
33 trees in each row so

$11 \times 33 = 363$

$27 \times 33 = 891$

1254

1

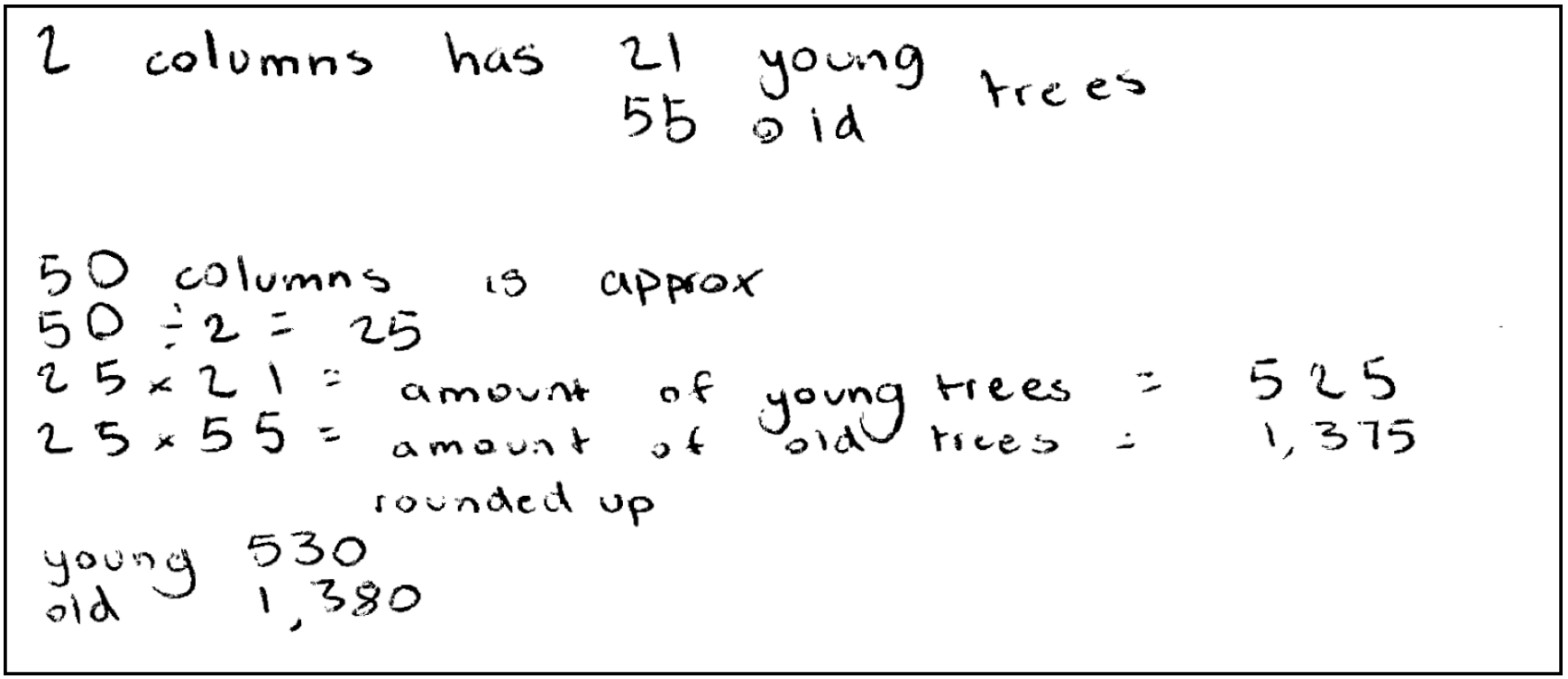
2.

a. $11 \times 33 = 363$ = new trees.

b. $27 \times 33 = 891$ = old trees.

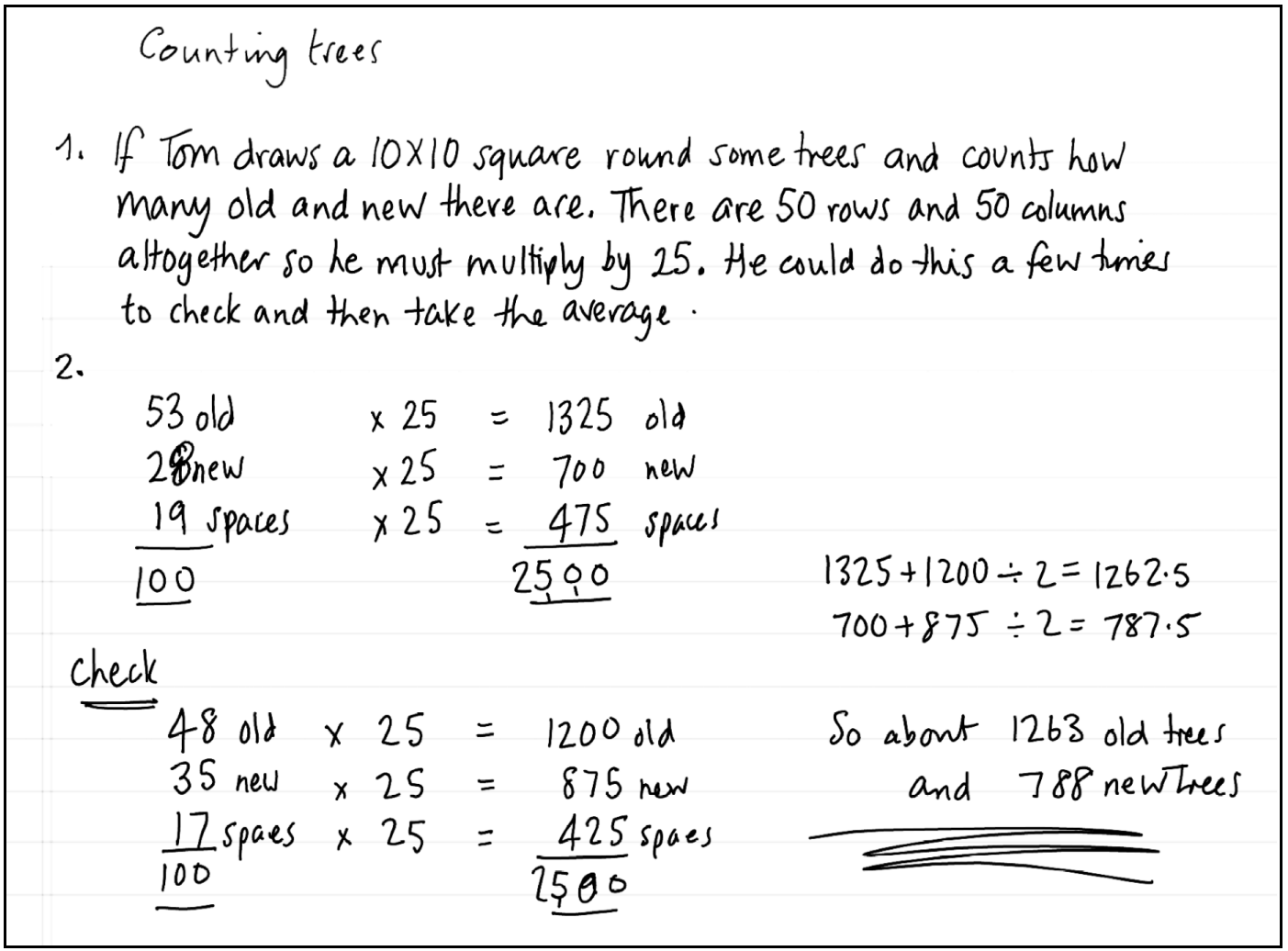
Counting trees

Sample response: Woody



Counting trees

Sample response: Amber



Counting trees

1. If Tom draws a 10X10 square round some trees and counts how many old and new there are. There are 50 rows and 50 columns altogether so he must multiply by 25. He could do this a few times to check and then take the average.

2.

53 old	x 25	=	1325	old
28 new	x 25	=	700	new
19 spaces	x 25	=	475	spaces
100			2500	

1325 + 1200 ÷ 2 = 1262.5

700 + 875 ÷ 2 = 787.5

Check

48 old	x 25	=	1200	old
35 new	x 25	=	875	new
17 spaes	x 25	=	425	spaes
100			2500	

So about 1263 old trees and 788 new trees