An orchid breeder is interested in increasing the number of stems and the length of

stems that can be produced by an orchid plant. She finds a segregating population

that contains a wide range of both stem number (ranging from 2 to15 stems per plant)

and stem length (ranging from 2 to 7 inches in length). She selected plants from this

population that either had the most stems per plant or the longest stems per plant

(shown as striped regions in the diagrams below). She then intermated the plants

with the most stems (or the longest stems) and grew the resulting populations of

orchids. Following an additional round of selection and breeding, the breeder drew

graphs to look at the distribution of plants in each generation. Shown below are

graphs representing the distribution of plants in each generation in terms of stem

number and stem length (in inches). For each trait, determine whether or not the trait

is heritable. Justify your answers. SEE Second Page!

