



Figure 4.34 Improved model of the Name example

- 3 When I am dealing with an inheritance hierarchy, I sometimes can't tell whether one class should be a subclass of another or if I am looking at two members of the same class. For example, is Shetland pony a subclass of Horse?

For something to qualify as a subclass it must have at least one extra attribute or operation or over-ride an inherited operation.

- 4 Organizing classes into an inheritance hierarchy seems like a lot of extra work; is it always worth doing?

Organizing classes into an inheritance hierarchy does involve extra effort. It is worth doing if it simplifies your model and clarifies your thinking. It is also worthwhile if it seems quite likely that you will need to introduce new classes in the future and an inheritance hierarchy would simplify the process. Another factor is whether you are thinking of reusing any of your classes. The more general they are, the easier they are to reuse.

- 5 Do subclasses always inherit all the features of the parent class?

Yes, for all practical purposes. Some object-oriented programming languages allow inherited features to be suppressed, but this is generally considered to be bad practice.

- 6 How can I recognize an abstract class?

Technically, an abstract class is one that has no method defined for one or more of its operations; this means that there can be no instances of the class in a system.