

(PB0101)

- (a) F ( $x = 2$  is also a root)
- (b) T (it doesn't matter that  $x = 2$  is a root here)
- (c) F ( $x = 2$  is a problem again)
- (d) T (the two roots are  $x = 1$  and  $x = 2$  – but can you *prove* that there are no others?)
- (e) T ( $x = 3$  isn't a root but this doesn't matter)
- (f) F ( $x = 3$  isn't a root and this time it matters).

The key thing to understand here is that  $P \Rightarrow Q$  means, and *only* means, that if  $P$  is true, then  $Q$  is true. So, for example, part (e) is true, even though in practice it's a bit weird and unhelpful; the point is that logically it's a true statement.