Chapter 4

4.1 Exercise 1.64.

4.2 Try to construct a counterexample.

4.9 In part (b), $q_1 = 215/6$, $q_2 = 110/6$, and $p = 275/6$.

4.13 $p_1^* = p_2^* = 80/3$.

4.14 Exploit the symmetry here.

4.15 For (c), J^* is the largest integer less than or equal to $1 + \sqrt{2k}$.

4.18 For (a), just let $\eta(y) = \eta$, a constant, where $\eta \neq 1$. For (b), let $\eta = 0$. For (c), start over from the beginning and let $\eta(y) = 1$. For (d), according to Taylor's theorem, $f(t) \approx f(t_0) + f'(t_0)(t - t_0) + (1/2)f''(t_0)(t - t_0)^2$ for arbitrary t_0. Rearrange and view the expression for $CV + y^0$ as the function $y^0[t+1]^{1/(1-\eta)}$. Apply Taylor's theorem and evaluate at $t_0 = 0$.

4.19 In (b), $v(p, y) = \ln(1/p) + y - 1$. For (d), will anything from Exercise 4.18 help?

4.20 Exercise 4.18.

4.25 For (a), $p_1 = p_2 = 4$. For (b), look at the tail.

4.26 Sketch it out carefully on a set of diagrams like Fig. 4.2. For (d), does it really make any difference to *consumers*? For (e), go ahead and assume that everyone's identical. Still, you'll have to think about a lot of things.