Answers to Questions for Review

10.1 The figures should all start like Figure 10.4, but with the \( AVC \) omitted for simplicity and also with no shading. In (a) you should end up with two \( D, AR \) curves and two \( MR \) curves, as in case (a) of Figure 10.7, but with the curves there with a subscript of 0 having the subscript 1, and vice versa. You have also drawn \( SAC \). Output will fall to where the new \( MR \) intersects \( SMC \), and the price will also fall. (You might note that if the new price at this intersection was below \( AVC \) at that output, then the firm would shut down.) In (b) you should have a figure like part (a) of Figure 10.8, but with \( SAC_0 \) there labelled \( SAC_1 \) and vice versa. There is no shift in \( SMC \) or \( MR \), and so no change in output or price, but you could show the original profit and also show that the profit will rise. In (c) you should have a figure like part (b) of Figure 10.8, but with the curves there with a subscript of 0 having the subscript 1, and vice versa. Output settles where \( MR \) intersects the new \( SMC \), which is at a higher output and a lower price, and the profit will rise.

10.2 (a) Yes. It ends up at the output where \( LMC \) intersects \( MR \). So if this intersection is to the right of the lowest point of \( SAC \), then it will end up with an output higher than this.

(b) Yes. There are barriers to any new entrants who might want to enter, so it is hard for them to do so and to reduce demand for the existing monopolist.

10.3 (a) No. It would secure the lowest possible total cost by shutting down and having no variable costs at all.
(b) No. It could increase its total revenue by increasing output up to the level where \( MR \) was zero so that extra units of output no longer increased \( TR \).

(c) No. All we can be sure of is that it is at least covering its variable costs, because otherwise it would shut down.

10.4  (a) No. It ends up at the output where it has a downward sloping \( D,AR \) curve just touching \( LAC \), so \( LAC \) must itself be downward sloping at that output.

(b) No. There are no barriers to entry, so in the long-run new firms will enter and take demand away from existing firms until the existing firms just break even.