1. Suppose the economy is in a long-run equilibrium when a positive demand shock occurs.

   a. On the graphs below, show what happens to bring the economy back to long-run equilibrium, assuming that there is no policy response.

   b. In words, describe how the graph would be different, if policy makers did intervene.

   ![Graphs](image-url)

   The graphs should be similar to Fig. 13.2, with AD shifting right and AS shifting up. If there is a policy response, the MP curve shifts up and AD shifts back to the left. There is no shift of AS, so inflation returns to its original rate.
2. Suppose the economy is in a long-run equilibrium when a **temporary, favorable aggregate supply shock** occurs.

a. On the graphs below, show what happens to bring the economy back to long-run equilibrium, assuming that there is no policy response.

b. In words, explain why "no response" is the best policy.

The graphs should be similar to Fig. 13.6, with AS shifting first right and then back to the left, so inflation returns to its original rate. With no policy response, both the output and inflation gaps return to zero.

i. If policy makers respond when the inflation rate falls below target, the output gap is enlarged, so AS will shift up and cause a positive inflation gap.

ii. If the policy response is to correct the output gap, the decrease in AD will enlarge the negative inflation gap.
3. Consider central bank actions.
   a. On the graphs below, show how the central bank implements a decrease in the inflation target.

   b. In words, explain why the change in the real interest rate is temporary.

   The graphs resemble Fig. 13.10 with all shifts reversed. The increase in the real interest rate (point 1 to point 2) causes a decrease in expenditures (AD shifts down). Declining inflation lowers the real interest rate (movement along the MP curve from point 2 to point 3), which increases expenditures (movement along the AD and IS curves (point 2 to point 3 in panel b)). Since there has been no shift of the IS curve, the real interest rate must return to its original value, so that aggregate demand is equal to potential output.
4. Consider the Taylor Rule.

a. How might strict adherence to the Taylor rule discourage demand-pull inflation? How might demand-pull inflation occur, nonetheless?

The Taylor rule requires monetary policy to respond to both inflation and output gaps. If an attempt to lower unemployment results in rising inflation, policy acquires an anti-inflationary bias. Though the Taylor rule can prevent the persistence of demand-pull inflation, it might make brief episodes of inflation more likely. If policy makers underestimate the natural rate of unemployment, adherence to the Taylor rule guarantees that inflation will rise. See Figure 13.12.

b. How might strict adherence to the Taylor rule discourage cost-push inflation?

Cost-push inflation cannot persist without repeated increases in AD to counter declines in output. Constrained by the Taylor rule, monetary policy must tighten as the inflation rate rises, even when that means an increase in the (absolute value of the) output gap. Moreover, public knowledge of the central bank's commitment to an inflation target causes upward shifts of the aggregate supply curve to be relatively infrequent and small. See Figure 13.11.