Answers

1.
   a. $Y = C + I + G + X$
       $= (220 + 0.63{\times}Y) + (1{,}000 - 2{,}000{\times}R) + [1{,}200 - 0.1{\times}(Y-Y^*)] + (525 - 0.1{\times}Y - 500{\times}R)$
       $= 2945 + 0.43{\times}Y - 2{,}500{\times}R + 0.1{\times}Y^*$, or,
       IS: $R = 1.178 - 0.000228{\times}Y + 0.00004{\times}Y^*$.

       The coefficient on *Y* in the old IS curve was –0.000188; the new IS curve is steeper. Since greater Y lowers G, the spending multiplier is lower, so the effect of R on spending is lessened.

   b. As before, LM: $R = .0001583{\times}Y - 0.001{\times}M^S/P$.

       Solving the new IS and the old LM equation for R and Y gives the following AD curve: AD: $Y = 3{,}049.4434 + 0.10355{\times}Y^* + 2.58866{\times} M^S/P$.

       The coefficient of M^S/P for the old AD equation was 2.8877. The coefficient of 1/P for the new AD equation is greater, and, therefore, the new AD curve is steeper. The AD curve is steeper because, due to the fact that IS curve is steeper, a given change in P, resulting in a given shift in LM, has a smaller effect on income.

   c. Y increases by 25.9 billion. The effect on GDP becomes smaller because the interest rate reductions caused by the monetary change lead to a smaller increase in spending when the multiplier is reduced.

   d. This equation is not a good description of actual purchases, since countercyclical adjustments in government spending occur with a lag. Other components of the budget that act as automatic stabilizers, like taxes and transfers payments, impact output faster. That is, automatic stabilizers act faster to lessen the impact of both price shocks and demand shocks than countercyclical increases in government spending.

2.
   a. $Y = C + I + G + X = [100 + 0.9{\times} (Y + F)] + 750 + G + 0$. So, $Y = 8{,}500 + 9{\times}F + 10{\times}G$. Until the 500 government outlay is apportioned between F and G, the point of spending balance cannot be determined.

   b. The maximum point of spending balance is when $G = 500$ and $Y = 13{,}500$. The minimum point of spending balance is when $F = 500$ and $Y = 13{,}000$.

   c. Every dollar of government purchases goes directly into aggregate demand, whereas only 90 cents of every transfer dollar becomes private consumption, and hence only 90 cents of every dollar of government transfer goes into aggregate demand; the remaining 10 cents is saved.

3. When there is a rise in income, say due to an exogenous increase in government spending, a portion of that income is spent abroad. This flow out of the domestic economy tends to reduce the increase in income. Similarly, in a recession, part of the reduction in spending is on imports; this may make the fall in output less than it otherwise would be. Where imports consist primarily of luxury goods, imports will be especially sensitive to income, and their role as an automatic stabilizer increased.

4.
    a. Basically the administration has pledged not to change fiscal policy. To reduce the budget deficit, it must stimulate the economy by increasing the money supply. This will lower the interest rate, raise investment and output, and increase tax revenues. The effect on the trade deficit is ambiguous since the fall in interest rates raises (X – IM), but the increase in Y lowers (X – IM).

    b. In the long run, prices will rise and shift the LM curve to the left but there will be no change in the budget deficit or trade deficit.

    c. The real value of government debt outstanding will be reduced in the short run (over what it would have been) due to the smaller deficits; in the long run, the reduction will be even greater as the rise in prices reduces the real value of nominal debt.

    d. If people expect the growth rate of the money supply to increase, then they will raise their expectations for the inflation rate. That higher expected inflation will cause nominal interest rates to rise since the nominal interest rate equals the expected inflation rate plus the real interest rate.

    e. The preceding analysis says that even while current inflation is low, expected inflation might be quite high. Using the current inflation rate for the expected inflation rate overstates the current real rate of interest.

5. Government savings decrease, but output increases, so private savings rise due to higher output and higher interest rates. Investment may be lower, though, due to higher interest rates.