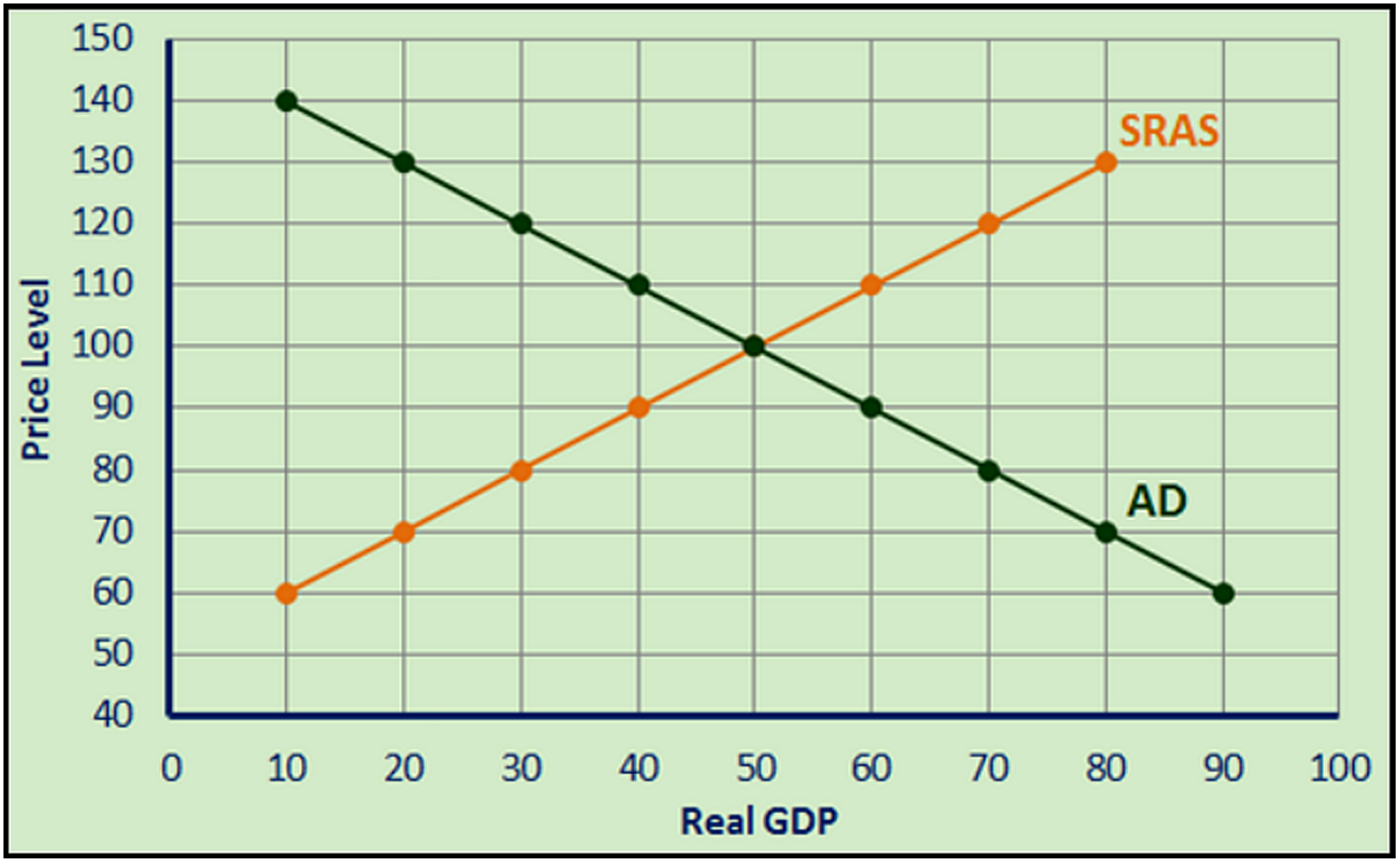
Problem 1. Currently $Y = 50$, $Y_p = 50$, and $P = 100$. The expenditure multiplier equals 5. All else the same, transfer payments TR increase by 10 units through deficit financing. How does the AD/AS graph change? (Assume there is no crowding out.)

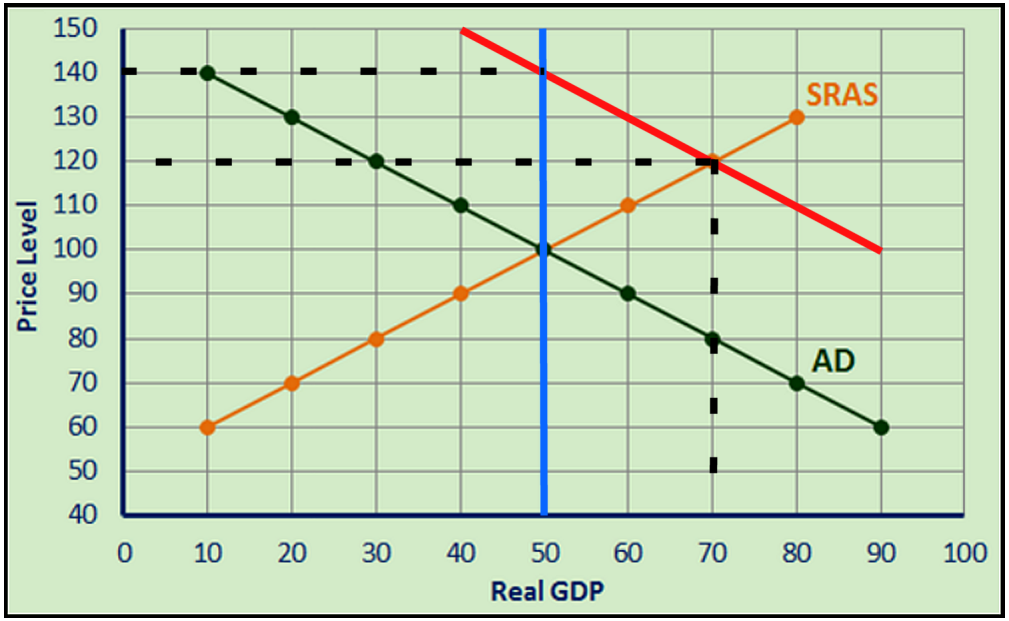


Answer 1. Since the expenditure multiplier is 5, it follows that

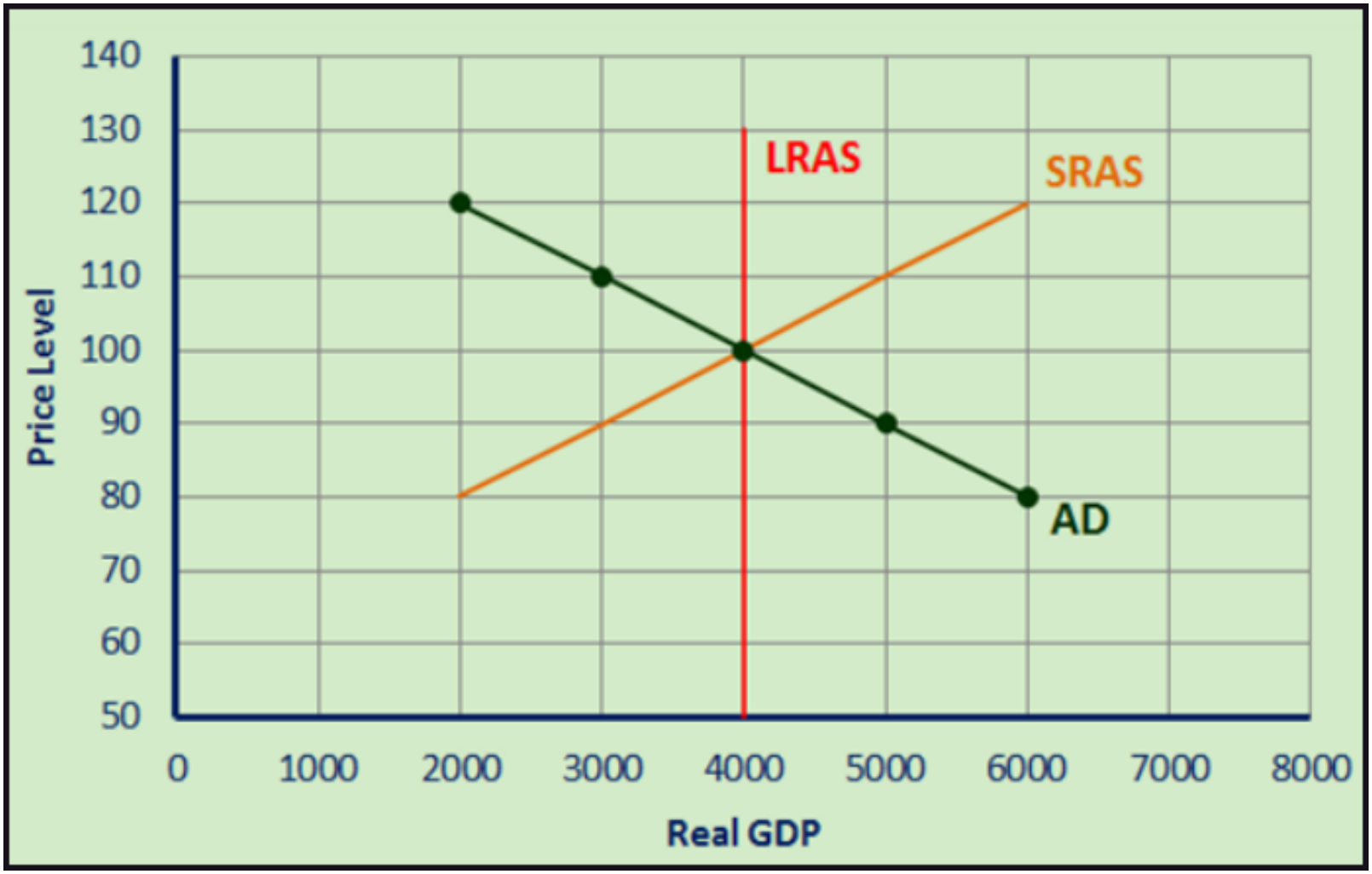
$$\frac{1}{1-MPC} = 5 \implies MPC = 0.80.$$

So when transfer payments increase by 10 units, it means consumption initially increases by 8 units. Then from the expenditure multiplier, the overall increase in consumption will be $8 \times 5 = 40$. So shift AD to the right by 40 units.

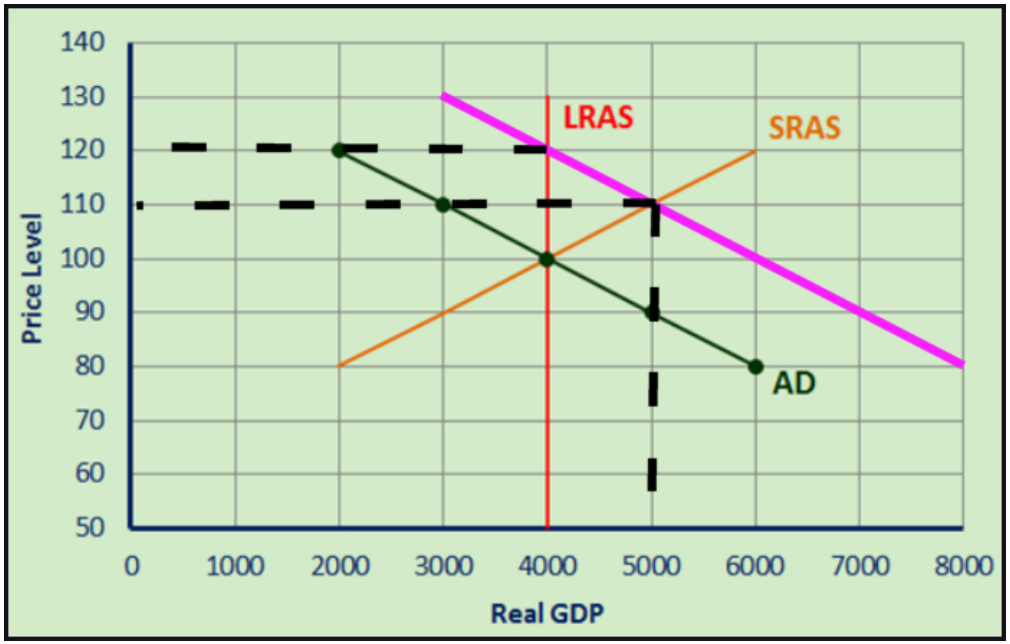
- Short run equilibrium: $Y = 70$, $P = 120$
- Long run equilibrium: $Y = 50$, $P = 140$



Problem 2. What happens in the short run and the long run if there is a balanced budget increase in government spending of 2000 units?

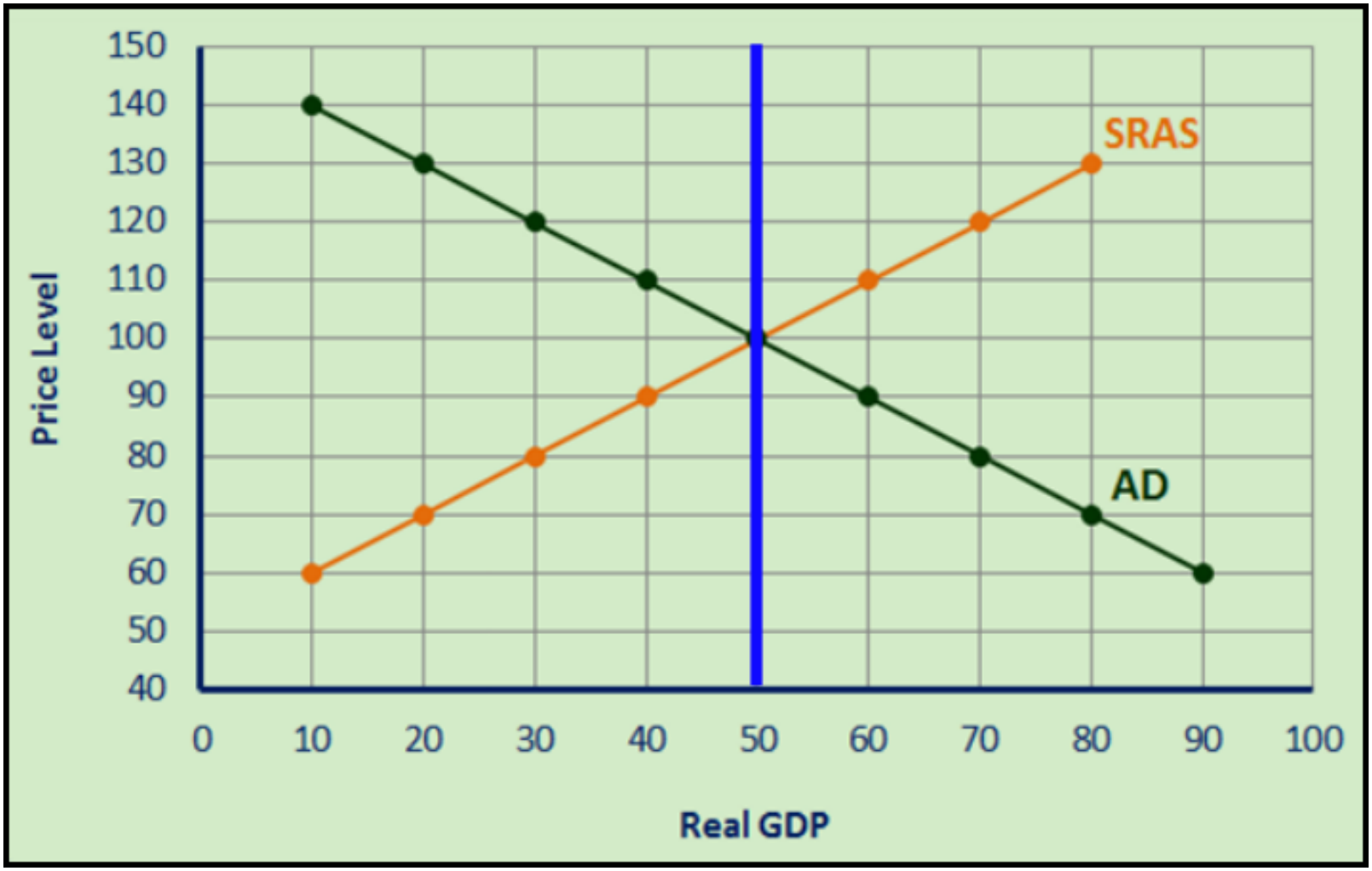


Answer 2. Recall that a balanced budget increase in government spending means that G increases by 2000, TX also increases by 2000, that the increases in taxes cancels out the multipiler effect of the increase in G, and therefore AD only shifts by whatever the change in G is, in this case 2000.



- Short run equilibrium: $Y = 5000$, $P = 110$
- Long run equilibrium: $Y = 4000$, $P = 120$

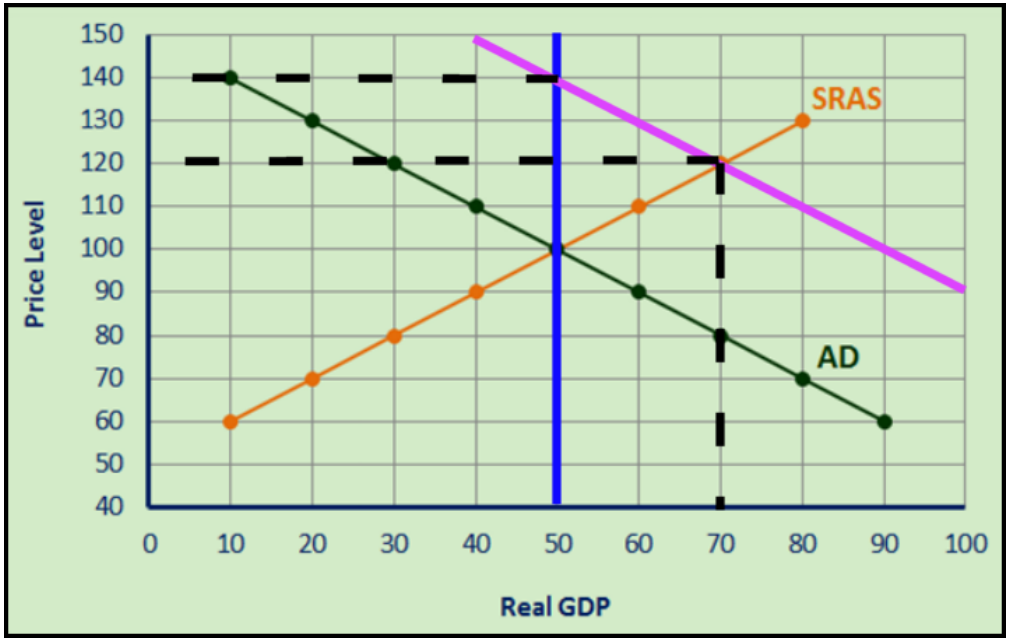
Problem 3. Suppose the expenditure multiplier equals 5. Show the effect of a decrease in taxes by 10 units in both the short run and long run.



Answer 3. First we should find out what MPC is.

$$\frac{1}{1-MPC} = 5 \implies MPC = 0.80.$$

Recall that $Y_d = Y - TX + TR$. So if TX decreases by 10, it means that Y_d increases by 10. This means that consumption increases by $0.80 \times 10 = 8$. Now use the multiplier effect on this increase in consumption; AD will shift to the right by $8 \times 5 = 40$.



- Short run equilibrium: $Y = 70$, $P = 120$
- Long run equilibrium: $Y = 50$, $P = 140$

Problem 4. Credit risk increases. The effect of this event can be represented as

(a) a movement down and to the right along the AD function

(b) a movement up and to the left along the AD function

(c) a rightward shift in the AD function

(d) a leftward shift in the AD function

(e) none of the above

Answer 4: d. A credit risk increases means lenders will lend less at any interest rate. This means that the supply of loanable funds decreases, which results in a higher equilibrium interest rate R. Higher R means that the cost of borrowing increases (holding π^e constant), which in turn reduces consumption and investment at every price level, a leftward shift in AD.