### FORMULAS:

### Total Change in Money Supply = Initial excess reserves x Money Multiplier

* **Total Reserves = Cash in vault + Deposits at Fed**
* **Required Reserves = RR x Liabilities**
* **Excess Reserves = Total Reserves - Required Reserves**
* **Money Multiplier = 1 / RR**

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| --- | --- |
| **ASSETS** | **LIABILITIES + NET WORTH** |
| **Reserves $200** | **Checkable Deposits $600** |
| **Loans 100** | **Stock Shares 700** |
| **Securities 500** |  |
| **Property 500** |  |

**Refer to the above information for a single bank. The required (legal) reserve ratio is 25%. This bank can safely expand its loans by a maximum of:**
1.  $0
2.  $50
3.  $100
4.  $200

**Refer to the above information. The required (legal) reserve ratio is 25%. If the original bank balance sheet was for the commercial banking system, rather than a single bank, loans and deposits could have been expanded by a maximum of:**
1.  $0
2.  $50
3.  $100
4.  $200

**What is your answer to the question above if the Fed lowered the Required Reserve ratio to 20%?**1.  $200
2.  $250
3.  $400
4.  $600

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ASSETS**

|  |  |
| --- | --- |
| **Reserves** | **$20** |
| **Securities** |  **50**  |
| **Loans** |  **10** |
| **Property** |  **30** |

 | **LIABILITIES**

|  |  |
| --- | --- |
| **Deposits** | **$50** |
| **Capital Stock** |  **60** |

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(a) What is the amount of excess reserves in this commercial banking system?

(b) What is the maximum amount that the money supply can be expanded?

(c) If the reserve ratio fell to 25 percent, what is now the maximum amount that the money supply can be expanded?

**4. Answer the next question based on the following consolidated balance sheet for the commercial banking system. Assume the required reserve ratio is 20 percent. All figures are in billions of dollars.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ASSETS**

|  |  |
| --- | --- |
| **Reserves** | **$60** |
| **Securities** | **140**  |
| **Loans** | **100** |
| **Property** | **400** |

 | **LIABILITIES**

|  |  |
| --- | --- |
| **Deposits** | **$200** |
| **Capital Stock** |  **500** |

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(a) What is the amount of excess reserves in this commercial banking system?

(b) What is the maximum amount that the money supply can be expanded?

(c) If the reserve ratio fell to 10 percent, what is now the maximum amount that the money supply can be expanded