Lesson 19

$P_{today} = D_{next\ year} / (1 + i) + D_{in\ two\ years} /(1+ i)^2 + \ldots + D_{n\ years\ from\ now} / (1 + i)^n + P_{n\ years\ from\ now} /(1 + i)^n$

$D_{next\ year} = D_{today} (1+g)$
$D_{n\ years\ from\ now} = D_{today} (1+g)^n$

$P_{today} = D_{today}(1+g) / (1 + i) + D_{today}(1+g)^2 / (1 + i)^2 + \ldots + D_{today}(1+g)^n / (1 + i)^n + P_{n\ years\ from\ now} /(1 + i)^n$

Price of stock using dividend-discount model:
$P_{today} = D_{today}(1 + g) / i - g$

Lesson 20
Return to holding stock for one year= $\{(D_{next\ year} / P_{today}) + (P_{next\ year} - P_{today} / P_{today})\}$

Dividend-discount model adjusted for the stock risk:
Required Stock Return (i) = Risk-free Return (rf) + Risk Premium (rp)

$P_{today} = D_{today}(1 + g) / rf + rp - g$

Lesson 23
Total Bank Assets = Total Bank Liabilities + Bank Capital

Lesson 24
ROA = Net profit after taxes /Total bank assets
ROE = Net profit after taxes /Bank capital
Leverage ratio = Bank Assets /Bank Capital

Lesson 25
Gap analysis = Interest rate sensitive assets – Interest rate sensitive liabilities

Lesson 33
Monetary Base = currency in the hands of the public + reserves in the banking system
Bank Reserves = Vault Cash + Deposits at the central bank

Lesson 33
Required Reserve ratio = RR= $r_D * D$
$\Delta RR = r_D * \Delta D$
The change in deposits will be the inverse of the required deposit reserve ratio (rD) times the change in required reserves.
$\Delta D = (1/r_D) * \Delta RR$
Where;
$(1/r_D)$= Deposit Expansion Multiplier

Quantity of Money = M= m*MB

Money=Currency+Checkable deposits
Monetary base= Currency+Reserves
Reserves=Required reserves+Excess reserves

Lesson 37

Quantity of Money x Velocity of Money = Nominal GDP
If we represent;
Money= M
Velocity= V
Nominal GDP=Price level (P) x Real GDP (Y)
Nominal GDP=P x Y

Substituting, we get

$$M \times V = P \times Y$$

Money demand = Total value of transaction / Velocity of Money
For the economy as a whole,
Money demand = Nominal GDP /Velocity

$M^d = 1/V \times PY$

Rearranging the Money demand function gives MV = PY

Lesson 40

Aggregate Govt.'s Net Demand = Consumption + Investment + Purchases + Exports
Yad = C + I + G + NX