

Chapter 10 Problem Set

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OK!!

$$1. \quad c = 25 + .8Y_d$$

$$Y_d = 5 + .75Y$$

$$I = 1000 - 4000i$$

$$Y = C + I + G$$

$$a. \quad Y = 25 + .8(5 + .75Y) + 1000 - 4000i + G$$

$$Y = 1029 + .64Y - 4000i + G$$

$$Y - .64Y = 1029 - 4000i + G$$

$$Y = \frac{1}{.36} (1029 - 4000i + G)$$

$$Y = 2572.5 - 10,000i + 2.5G \quad \checkmark$$

$$b. \quad I = 1000 - 4000(.1)$$

$$= 600$$

$$Y = 25 + .8(5 + .75Y) + 600 + 400$$

$$Y = 1029 + .64Y$$

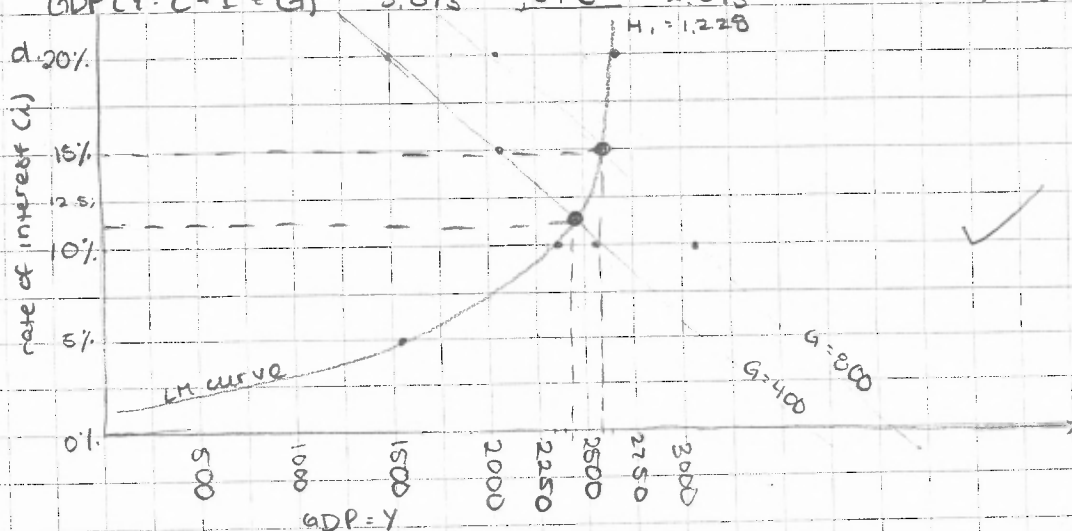
$$.36Y = 1029$$

$$Y = 2572.5 = GDP \quad \checkmark$$

disposable income =  $Y_d = 5 + .75(2572.5)$   
 $= 1934.375 \quad \checkmark$

consumption =  $C = 25 + .8(1934.375)$   
 $= 1572.5 \quad \checkmark$

	c	a	b	c	d	e
interest rate (i)		5.00%	10.00%	15.00%	20.00%	10.00% 20.00%
Investment (I)		800	600	400	200	600
disposable income (Y <sub>d</sub> )		2,309	1,934	1,569	1,184	2,684
Consumption (C)		1,873	1,573	1,273	973	2,173
Government (G)		400	400	400	400	800
GDP (Y = C + I + G)		3,073	2,573	2,073	1,573	3,573



$$M_d = \frac{1}{2} S + \frac{30}{i}$$

2a	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>
GDP	1,570	2,320	2,570	2,695	5,820
Interest rate (i)	5.00%	10.00%	15.00%	20.00%	25.00%
Money Demanded (M <sub>d</sub> )	1,228	1,228	1,228	1,228	2,448

b see graph on other side ✓

c  $G = 400$   
 rate of interest = 11% ✓  
 $Y = GDP = 3350$

$$\text{disposable income} = Y_d = S + .75(3350) = 2517.5$$

$$\text{consumption} = C = 25 + .8(2517.5) = 2039$$

nice job

$G = 800$

rate of interest = 15% ✓

$GDP = Y = 2600$

$$\text{disposable income} = Y_d = S + .75(2600) = 1955$$

$$\text{consumption} = C = 25 + .8(1955) = 1589$$

Changes in Fed's Balance Sheet

3a Assets

$\Delta T$  Bills + 4 million

Liabilities

member Bank Deposits + 4 million

changes in Commercial Banks' Balance Sheets

Assets

$\Delta T$  Bills - 4 million

$\Delta$  Deposits at the Fed + 4 million

Liabilities ✓

b Banks would be more likely to make loans because they would have more in reserves ✓

c \$40 million, because reserves must be equal to 10% of bank deposits ✓

d An increase in the money supply would cause the interest rate to decrease. This would cause investment to increase which, in turn, would cause output, employment & prices to increase. Therefore GDP (which is equivalent to output) would increase ✓

great job!