

SOLUTION EXERCISE I

	A	M	O	INTERM. OUTP.	FINAL OUTP.	TOTAL
A	-	30	20	50	70	120
M	20	-	40	60	40	100
O	35	25	-	60	35	95
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Interm. Import	10	20	-			
Wag. & Sal.	35	10	20			
Op. Surplus	20	15	15			
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TOTAL	120	100	95			

1) Operating Surplus: A = 20
M = 15
O = 15

2) Dom. Product = Fin. Output - Interm. Import
= (70 + 40 + 35) - 30
= 145 - 30
= **115**

3) Dom. Income = W & S A + W & S M + W & S O
+ OS A + OS M + OS O
= 35 + 10 + 20
+ 20 + 15 + 15
= **115**

SOLUTION EXERCISE II

(N.B.: In some cases it is possible to arrive in more than one way at the correct answer!)

a.1. Domestic prod./inc., gross, m.p.,	=	value final expend. -value total import
	=	cons. expend. + inv. exp. + exports - imports
	=	$(80+20)+(45+5)+30 -20 = \mathbf{160}$
a.2. Domestic prod./inc., net, m.p.,	=	Dom. prod./inc., gross, m.p. - depreciation
	=	$160 - 30 = \mathbf{130}$
a.3. Dom. prod./inc., gross, f.c.,	=	Dom. prod./inc., gross, m.p. - net indirect taxes
	=	$160 - (13-3) = \mathbf{150}$
a.4. Dom. prod./inc., net, f.c.,	=	Dom. prod./inc., gross, m.p. - depreciation - net indirect taxes
	=	$160 - 30 - (13-3) = \mathbf{120}$
b.1 National prod/inc., gross, m.p.	=	Dom. prod/inc., gross, m.p. + net factor income from abroad
	=	$160 + (7+3-0-15) = \mathbf{155}$
b.2. Nat. prod./inc., net, m.p.	=	nat. prod./inc., gross, m.p. - depreciation
	=	$155 - 30 = \mathbf{125}$
b.3. Nat. prod./inc., gross, f.c.	=	nat. prod./inc., gross, m.p. - net indirect taxes
	=	$155 - (13-3) = \mathbf{145}$
b.4. Nat. prod./inc., net, f.c.	=	nat. prod./inc., gross, m.p. - net indirect taxes
	=	$155 - 30 - (13-3) = \mathbf{115}$

$$\begin{aligned} \text{c.1. National Disp. Income, gross, m.p.} &= \text{National prod./ inc. gross, m.p. +} \\ &\quad \text{other current transfers from abroad (net)} \\ &= 155 + (12 - 2) = \underline{\mathbf{165}} \end{aligned}$$

$$\begin{aligned} \text{c.2. Nat. Disp. Income, net, m.p.} &= \text{Nat. Disp. Inc., gross, m.p. - depreciation} \\ &= 165 - 30 = \underline{\mathbf{135}} \end{aligned}$$

SOLUTION EXERCISE III

	I	II	III
Intermediate output	50	25	10
Consumer products	80	70	60
Investment goods	0	50	0
Exports	30	40	20
 Gross Output	 160	 185	 90
 Intermediate inputs (domestic origin and imported)	 35	 45	 20
Wages & Salaries	65	90	40
Interest and rents	25	10	5
 A.1. Value Added, gross, mp	 125	 140	 70
A.2. Op. Surplus, gross, mp	60	50	30
A.3. Profits, gross, mp	35	40	25

B.

OUTG.	Prod. Acc. I	INC.
- INT. CONS. 35		- INT. OUTPUT 50
VALUE ADDED (GROSS, MP) 125		- FINAL OUTPUT 110
* Wages & Sal. 60		* Cons. Prod. 80
* Op. Surp. gr., mp 65		* Inv. G. 0
		* Exports 30
GROSS INPUT 160		GROSS OUTPUT 160

OUTG.		Prod. Acc. II		INC.
- INT. CONS.	45		- INT. OUTPUT	25
			- FINAL OUTPUT	160
			* Cons. Prod.	70
			* Inv. G.	50
			* Exports	40
VALUE ADDED (GROSS, MP)	140			
* Wages & Sal.	90			
* Op. Surp. gr., mp	50			
GROSS INPUT	185		GROSS OUTPUT	185

OUTG.		Prod. Acc. III		INC.
- INT. CONS.	20		- INT. OUTPUT	10
			- FINAL OUTPUT	80
			* Cons. Orpd.	60
			* Inv. G.	0
			* Exports	20
VALUE ADDED (GROSS, MP)	70			
* Wages & Sal.	40			
* Op. Surp. gr., mp	30			
GROSS INPUT	90		GROSS OUTPUT	90

C.

OUTG.		Prod. Acc. ECON		INC.
- INT. CONS.	100		- INT. OUTPUT	85
* Dom. Prod.	85			
* Imported	15		- FINAL OUTPUT	350
			* Cons. Prod.	210
			* Inv. G.	50
			* Exports	90
VALUE ADDED (GROSS, MP)	335			
* Wages & Sal.	195			
* Op. Surp. gr., mp	140			
GROSS INPUT	435		GROSS OUTPUT	435

D. Interm. Imports: Interm. cons. – Interm. output =
 100 – 85 = **15**

E. Dom. Prod. Gross, mp: Final Output – Interm. Imports =
 350 – 15 = **335**

F. Dom. Inc. gross, mp: Wages & Sal. + Op. Surplus, gross, mp =
 195 + 140 = **335**

SOLUTION EXERCISE IV

(1) PRODUCTION ACCOUNTS

OUTG.	Prod. Acc. Enterprises	INC.
- (Int. input from ent.)	50	- (Int. output to ent.) (50)
- Depreciation	10	- Int. output to governm. 5
- Net indirect taxes	4	- Consumer goods 60
- Wages and salaries	45	- Investment goods 25
- Net operating surplus	31	
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GROSS INPUT	140	GROSS OUTPUT 140
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OUTG.	Prod. Acc. Government	INC.
- Int. input from ent.	5	- Output public services 20
- Wages and salaries	15	
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GROSS INPUT	20	GROSS OUTPUT 20
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OUTG.	Prod. Acc. Economy	Interm. version	INC.
- (Int. input from ent.)	(50)	- (Int. output to ent.)	(50)
- Depreciation	10	- (Int. output to governm.)	(5)
- Net indirect taxes	4	- Consumer goods	60
- Wages and salaries	45	- Investment goods	25
- Net operating surplus	31		
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- (Int. input from ent.)	(5)	- Output public services	20
- wages and salaries	15		
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GROSS INPUT	160	GROSS OUTPUT	160
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OUTG.	Prod. Acc. Economy	final version	INC.
- Depreciation	10	- Output public services	20
- Net indirect taxes	4	- Consumer goods	60
- Wages and salaries	60	- Investment goods	25
- Net operating surplus	31		
GROSS VALUED ADDED	105	GROSS DOMESTIC PRODUCT	105

(2) INCOME – OUTLAY ACCOUNTS

OUTG.	Inc. & Outlay Acc.	Household sector	INC.
- Final consumption exp.	60	- Wages & salaries	60
- Direct taxes	10	- Prop. & enterpr. Inc.	20
- Saving	17	- Transfers (from Gov.)	7
OUTLAYS	87	INCOME	87

OUTG.	Inc. & Outlay Acc.	Enterprises sector	INC.
- Prop. & enterpr. Inc. (to househ.)	20	- Net op. surplus	31
- Direct taxes	5		
- Saving	6		
OUTLAYS	31	INCOME	31

OUTG.	Inc. & Outlay Acc.	Government sector	INC.
- Final consumption exp.	20	- Indirect taxes, net	4
- Current transfers (to househ.)	7	- Direct taxes (From Ent. 5)	15
- Saving	-8	(From Househ. 10)	
OUTLAYS	19	INCOME	19

OUTG.	Inc. & Outlay Acc.	Economy – interm. version	INC.
- Final consumption exp.	60	- Wages & salaries	60
- (Direct taxes)	(10)	- (Prop. & ent. inc.)	(20)
- Saving	17	- (Transfers (from Gov.))	(7)
- (Prop. & enterpr. inc. (to househ.))	(20)	- Net op. surplus	31
- (Direct taxes)	(5)		
- Saving	6		
- Final consumption exp.	20	- Indirect taxes, net	4
- Current transfers (to househ.)	(7)	- (Direct taxes) (From Ent. 5)	(15)
- Saving	-8	(From Househ. 10)	
OUTLAYS	137	INCOME	137

OUTG.	Inc. & Outlay Acc.	Economy – final version	INC.
- Final consumption Households	60	- Wages & salaries	60
- Final consumption Government	20	- Net op. surplus	31
- Saving	15	- Net ind. taxes	4
OUTLAYS	95	INCOME	95

(3) CAPITAL ACCOUNTS

OUTG.	Capital Acc.	Household sector	INC.
- Investment	0	- Saving	17
- Net lending	17	- Depreciation	0
ACCUMULATION	17	SOURCES	17

OUTG.	Capital Acc.	Enterpr. sector	INC.
- Investments	25	- Saving	6
- Net lending	-9	- Depreciation	10
ACCUMULATION	16	SOURCES	16

OUTG.	Capital Acc.	Governm. sector	INC.
- Investment	0	- Saving	-8
- Net lending	-8	- Depreciation	0
ACCUMULATION	-8	SOURCES	-8

OUTG.	Capital Acc.	Economy interm. version	INC.
- Investment	0	- Saving	17
- Net lending	17	- Depreciation	0
- Investments	25	- Saving	6
- Net lending	-9	- Depreciation	10
- Investment	0	- Saving	-8
- Net lending	-8	- Depreciation	0
ACCUMULATION	25	SOURCES	25

OUTG.	Capital Acc.	Economy Final version	INC.
- Investment	25	- Saving	15
- Net lending	0	- Depreciation	10
ACCUMULATION	25	SOURCES	25

SOLUTION EXERCISE V

OUTG.	1. Prod. Acc. ECONOMY	INC.
- Depreciation	5	- Priv. fin. cons. exp. 50
- Net indirect taxes	3	- Gov. fin. cons. exp. 10
- Wages and salaries	45	- Inv. in stocks 3
- Net operating surplus	21	- Inv. fix. ass. 15
		- Exports of g & s 8
		MINUS
		- Imports of g & s (-) 12
GROSS VALUE ADDED 74		GROSS DOMESTIC PRODUCT 74

OUTG.	2. Inc. & Outlay Acc. Households (HH.)	INC.
- Final cons. exp.	50	- Wages & sal. 44
- Direct taxes	10	* from dom. prod. 43
		* from ROW 1
- Current transfers	2	- Prop. & Enterpr. Inc. 19
* to ROW 2		* from ENT 15
		* from GOVT 1
- Saving	8	* from ROW 3
		- Current transfers 7
		* from ROW 1
		* from GOVT 6
OUTLAYS 70		INCOME 70

EXP.	3. Inc. & Outlay Acc. Enterprises (ENT.)	INC.
- Prop. & Enterpr. inc.	18	- Net op. surplus 21
* to GOVT 2		
* to HH 15		- Prop. & Enterpr. inc. 6
* to ROW 1		* from GOVT 2
- Direct taxes	4	* from ROW 4
- Saving	5	
OUTLAYS 27		INCOME 27

OUTG.	4. Inc. & Outlay Acc. Government (.)		INC.
- Final cons. exp.	10	- Indirect taxes, net	3
		- Direct taxes	
		* from ENT	4
		* from HH	10
- Prop. & Enterpr. In.	3		
* to ENT	2		
* to HH	1		
- Current transfers	6	- Prop. & Enterpr. In.	2
* to HH	6	* from ENT	2
- Saving	3	- Current transfers	3
		* from ROW	3
OUTLAYS	22	INCOME	22

OUTG.	5a. Inc. & Outlay Acc. ECONOMY Version A		INC.
- Final cons. exp.	60	- W & s rec. by HH	44
* by HH	50	* from dom. prod.	43
* by GOVT	10	* from ROW	1
- Direct taxes	14	- Net op. surplus	21
* by HH	10		
* by ENT	4	- Direct taxes	14
- Prop. & Enterpr. In.	21	- Prop. & Enterpr. In.	27
* to dom. inst.	20	* to dom. inst.	20
* to ROW	1	* to ROW	7
- Current transfers	8	- Current transfers	10
* to dom. inst.	6	* to dom. inst.	6
* to ROW	1	* from ROW	4
- Saving	16	- Indirect taxes, net	3
OUTLAYS	119	INCOME	119

OUTG.	5b. Inc. & Outlay Acc. ECONOMY Version B		INC.
- Final cons. exp. HH	50	- W & s rec. by HH	44
- Final cons. exp. GOVT	10	* from dom. prod.	43
		* from ROW	1
		- Net op. surplus	21
		- Prop. & Enterpr. In.	
		* from ROW, net	6
- Saving	16	- Current transfers	
		* from ROW, net	2
		- Indirect taxes, net	3
OUTLAYS	76	INCOME	76

OUTG.	5c. Inc. & Outlay Acc. ECONOMY Version C		INC.
- Final cons. exp. HH	50	- Wages & sal. paid by domestic producers	45
- Final cons. exp. GOVT	10	- Wages & sal. paid from ROW, net	-1
		- Net op. surplus	21
		- Prop. & Ent. Inc.	
		* from ROW, net	6
- Saving	16	- Current transfers	
		* from ROW, net	2
		- Indirect taxes, net	3
OUTLAYS	76	INCOME	76

OUTG.	6. Capital Acc. ECONOMY		INC.
- Investments	18	- Saving	16
* In stocks	3	- Depreciation	5
* In fixed assets	15	- Net capital transfers * from ROW	0
- Net lending to ROW	3		
ACCUMULATION	21	SOURCES	21

OUTG.	7. External Account ECONOMY		INC.
- Exports goods & serv.	8	- Imports goods & serv.	12
- Factor income from ROW	8	- Factor income from ROW	3
* Wages & sal.	1	* Wages & sal.	2
* Prop./enterpr. inc.	7	* Prop./enterpr. inc.	1
- Other curr. transfers from ROW	4	- Other curr. transfers to ROW	2
		- Surplus current acc.	3
TOTAL CURRENT	20	TOTAL CURRENT	20
- Surplus current acc.	3		
- Net capital transfers from ROW	0	- Surplus current & capital account	3
TOTAL	23	TOTAL	23

SOLUTION EXERCISE GDP INDICES

	Base year 0	year T Const. prices	year T Curr. prices
Private Final Consumption expenditure	120	250	450
Government Final Consumption expenditure	60	110	198
Investment in stocks	15	40	72
Investment in fixed assets	45	80	144
Exports of goods and services	30	55	99
Imports of goods and services	20	35	63
GROSS DOMESTIC PRODUCT	250	500	900

A) **250; 500; 900**

B) Implicit GDP Deflator for year T: $[900 / 500] * 100 =$ **180**

C) Real Product Index for year T: $[500 / 250] * 100 =$ **200**