Investment	Share A Mfg	Share B Mfg	Share C Food/Bev	Share D Food/Bev	Mutual Fund E	
% of Portfolio	30%	10%	40%	10%	10%	0%
Expected Return	15.4%	19.2%	18.7%	13.5%	17.8%	16.3%
Total Expected Return (Max. Objective)			17.2%	Return>	\$15,4	35.00

Portfolio Constraints				
Portfolio	100%	=	100%	
% Mfg Sector	40%	<=	50%	
Food/Bev	50%	<=	50%	
Company	10%	<=	32%	
Company	10%	<=	10%	
% Company C w/in	40%	<=	40%	
70 IVIULUAI	10%	<=	10%	

Amount to \$90,000.00 Invest:

ISQA 410 Summer 2018 August 19, 2018

		Production Quantity		
_	Month	Α	В	
	Jan	730	790	
Qty Prod	Feb	900	600	
	Mar	1000	900	
Direct Cost/Unit:		\$20.00	\$25.00	
Total Costs (Min. Obj.		\$109,8	364.40	

Required Resources						
Constraint	Mach. Hrs 1.50 1.60					
	Man Hrs	1.10	1.20			
		Jan. Cap.				
	Cap. Used		Cap. Av.			
Mach. Hrs	2359	<=	3000			
Man Hrs	1751	<=	2500			
	Feb. Cap.					
	Cap. Used		Cap. Av.			
Mach. Hrs	2310	<=	2800			
Man Hrs	1710	<=	2300			
		March Cap.				
	Cap. Used		Cap. Av.			
Mach. Hrs	2940	<=	3600			
Man Hrs	2180	<=	2400			

Bicycle A				
Month	December	January	February	March
Demand		700	900	1000
Production		730	900	1000
Prd. On Hand		830	1030	1130
Rem. Inv	100	130	130	130
		>=	>=	>=
		130	130	130

Bicycle B				
Month	December	January	February	March
Demand		800	600	900
Production		790	600	900
Prd. On Hand		910	710	1010
Rem. Inv	120	110	110	110
		>=	>=	>=
		110	110	110

	Cost Calculations				
Production	Bike A	\$14,600	\$18,000	\$20,000	
Production	Bike B	\$19,750	\$15,000	\$22,500	
Total Productio	n Costs	\$34,350	\$33,000	\$42,500	
*Maintenance	e Rate/Mor	nth/Unit:	2%		
Inventory	Bike A	\$2.60	\$2.60	\$2.60	
Inventory	Bike B	\$2.20	\$2.20	\$2.20	
Total Maint. Co	sts	\$4.80	\$4.80	\$4.80	

ISQA 410 Summer 201 August 19, 2018

Fuel Blend Calculations				
Ingredients	Octano	Super Fuel Unleaded	Unloaded	Super
ingredients	Octane	Super Fuer	Officaded	Unleaded
Α	120	427	73	500
В	90	173	1027	0
С	130	200	0	0
Blended Octane		116.0	92.0	120.0
>=		>=	>=	>=
Standa	ard	94	92	96

Total Raw				
Ingredients				
<=	1000			
<=	1200			
200 <= 700				
	redie <= <=			

Intermediate Octane				
Calcu	Calculations			
Fuel Blend	Fuel Blend Octane			
92800	>=	75200		
101200	>=	101200		
60000	>=	48000		

Raw Material
Cost
\$38
\$42
\$105
Material Cost
\$109,400.00

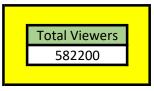
	Fuel Demand	I
800	1100	500
=	=	=
800	1100	500

F	uel Revenu	e
\$85	\$80	\$88
	\$200,000.00)
Tot	al Contribut	ion
	\$90,600.00	

	Fuel Blen	d Ratios	
Ingradiant	Super Fuel	Unloaded	Super
iligredient	Super Fuer	Officaded	Unleaded
Α	53%	7%	100%
В	22%	93%	0%
С	25%	0%	0%

ISQA 410 Summer 2018 August 19, 2018

Advertising	Expected Viewership Rate		
Time-Slots	Day Time Night Time		
Friday	5000	7500	
Saturday	5500	8200	
Sunday	5700	8400	



Time Slots to Purchase			
	Day Time	Night Time	Daily Spots
Friday	5	18	23
Saturday	10	18	28
Sunday	12	18	30

	Daily Spot
	Minimum
•=	20
-=	20
·=	20

	>=
Night Min.	12
50%	14
Constraint	15
<= Daily	Max <=
12	18
12	18
12	18

Time Spot Costs			
Day Time Night Time Cost/Day			Cost/Day
Friday	\$400	\$500	\$11,000
Saturday	\$450	\$550	\$14,400
Sunday	\$450	\$550	\$15,300

	Daily
	Budget
<=	\$11,000
<=	\$14,400
<=	\$19,600

Total
Budget
\$45,000

ISQA 410 Summer 2018

August 19, 2018