

Name	Student #	Tutorial #	Grade /20	Due 27-Mar-2015
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Bonus Assignment. You must submit in the tutorial which you are registered in.

1. Vernal Florists sells premium flowers for wedding planners. Total relevant fixed costs are \$29,400,000. The income tax rate is 13.7%. Their controller has provided you projected data:

	Morning Glory	Jasmine	Honeysuckle
Forecasted volume (units)	10,000	18,000	12,000
Expected sales mix in units	25%	45%	30%
Selling Price	\$200	\$700	\$800
Variable Costs	75	250	300

How many of each type of flower must the company sell to break even? (4 marks)

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2. Dairy King has two ice cream divisions, Lucerna and Saputoh. Lucerna sells standard packages while Saputoh sells custom orders. Occasionally transferring is possible. Saputoh currently purchases 10,000 standard packages per year externally at \$37 per package to further process. Dairy King evaluates managers based on divisional profits. The following financials concern Lucerna division. (4 marks)

External selling price per package:	\$46	Fixed costs per package (based on capacity):	\$9
Variable cost per package:	\$26	Capacity in packages processing:	60,000

**Assume that Lucerna Division now sells only 50,000 package each year to outside customers.**

For Lucerna, what is the lowest acceptable transfer price for the sale?	
For Saputoh, what is the highest acceptable transfer price to acquire?	
Is there any room for negotiation? What relevant prices would you expect?	
For the entire company, should a transfer take place? If not, why?	

**Assume that Lucerna Division now sells to outside customers all packages it can produce.**

For Lucerna, what is the lowest acceptable transfer price for the sale?	
For Saputoh, what is the highest acceptable transfer price to acquire?	
Is there any room for negotiation? What relevant prices would you expect?	
For the entire company, should a transfer take place? If not, explain why?	

3. Assume they both negotiated and transferred, and compiled the following financials. (2 marks)

	Lucerna	Saputoh		Lucerna	Saputoh
Sales (incl. other prdts)	\$4 500 000	\$6 300 000	Operating income	\$372 000	\$336 000
Avg total operating assets	\$2 810 000	\$2 440 000	Net PPE	\$950 000	\$800 000

Compute the rate of return for each division using the return on investment (ROI) performance measure.

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Compute residual income for each division assuming the required rate of return is 13%.

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4. Car Art has many divisions – one of which makes miniature cars. The bottleneck is to apply coats of paint to each car and only 7,240 expert hours are available. No fixed costs can be avoided.

Division Only Data	Corvette	Porsche	Ferrari	Jaguar
Unit contribution margin	\$120.00	\$59.52	\$46.93	\$150.40
Annual demand (units)	160	240	200	280
Hours required in the bottleneck operation per unit	10	8	14.5	16

Is there sufficient capacity to satisfy demand for all products? If not, show why. (1 mark)

What is the optimal production plan for the year for **each** product? (5 mark)

What is the total contribution margin for the optimal production plan you have proposed? (2 marks)

5. Car Art can improve its overall contribution margin by recycling waste to reuse or sell. Materials and processing costs total \$30,000 per tonne; one-third of the costs are allocated to the products. Any reclaimed material can either be sold at this point for \$40,000. If they incur \$13,000 to process the material into usable form, a similar market will buy the product for \$60,000. Show your work to explain whether the company process further or sell at the split off point. (2 marks)

Please explicitly state your decision.