University Printers has two service departments (Maintenance and Personnel) and two operating departments (Printing and Developing). Management has decided to allocate maintenance costs on the basis of machine-hours in each department and personnel costs on the basis of labor-hours worked by the employees in each.

The following data appear in the company records for the current period:

	Maintenance	Personnel	Printing	Developing
Machine-hours	–	624	912	3,264
Labor-hours	208	–	240	1,152
Department direct costs	$11,000	$22,000	$34,000	$19,000

Required:

Allocate the service department costs using the reciprocal method. (Matrix algebra is not required because there are only two service departments.) (Note: Due to rounding, the costs allocated to the various departments may not add up to the total service department costs being allocated.) **(Do not round intermediate calculations. Round final answers to the nearest dollar amount. Leave no cells blank - be certain to enter "0" wherever required. Amounts to be deducted should be indicated with a minus sign. Omit the "$" sign in your response.)**

	Cost Allocation To:			
From:	Maintenance	Personnel	Printing	Developing
Service department costs	$ 11000	$ 22000	$ 0	$ 0
Maintenance				
Personnel				
Total	$	$	$	$

Total cost of product KB $ 72238

Worksheet

Difficulty: Medium

Learning Objective: 11-8 Allocate joint costs using the physical quantities method.

5. award:
1.00 point

Manzano Bank has two operating departments (Branches and Electronic) and three service departments (Processing, Administration, and Maintenance). During November, the following costs and service department usage ratios were recorded:

Supplying Department	Using Department: Processing	Administration	Maintenance	Branches	Electronic
Processing	0	50%	0	10%	40%
Administration	0	0	0	60%	40%
Maintenance	10%	20%	0	20%	50%
Direct cost	$125,000	$748,000	$331,000	$6,500,000	$2,450,000

The cost accountant at Manzano Bank estimates that the cost structures in their departments are as follows:

	Processing	Administration	Maintenance	Branches	Electronic
Variable costs	$ 79,000	$ 243,000	$181,000	$2,600,000	$ 1,100,000
Fixed costs	46,000	505,000	150,000	3,900,000	1,350,000
Total costs	$125,000	$ 748,000	$331,000	$6,500,000	$ 2,450,000
Avoidable fixed costs	$ 12,000	$ 410,000	$122,000	$2,345,000	$ 900,000

Required:

(a) If Manzano outsources the Processing Department, what is the maximum they can pay an outside vendor without increasing total costs? **(Omit the "$" sign in your response.)**

Maximum amount $

(b) If Manzano outsources the Administration Department, what is the maximum they can pay an outside vendor without increasing total costs? **(Omit the "$" sign in your response.)**

Maximum amount $

(c) If Manzano outsources the Maintenance Department, what is the maximum they can pay an outside vendor without increasing total costs? **(Omit the "$" sign in your response.)**

Maximum amount $ 0

Worksheet

Learning Objective: 11-4 Allocate service department costs using the reciprocal method.

Difficulty: Difficult

Learning Objective: 11-5 Use the reciprocal method for decisions.