4 Y Limited manufactures three products, Exe, Wye and Zed. The following budgeted information is available for the month of July 2017:

Per unit	Exe	Wye	Zed
Selling price	$96.00	$128.00	$140.00
Direct material at $4 per kilo	7 kilos	9 kilos	15 kilos
Direct labour at $8 per hour	3 hours	4 hours	4 hours
Machine hours	1.00	2.50	5.00
Variable overhead	$2.40	$3.20	$3.20
Fixed overhead	$10.00	$25.00	$50.00
Maximum monthly demand	100 units	120 units	60 units

Fixed overheads are forecast to be $7000 per month.

Y Limited has enough resources and capacity to meet the maximum monthly demand.

REQUIRED

(a) Calculate the contribution per unit for **each** product.

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(b) Prepare a statement to show the maximum contribution **and** maximum profit that Y Limited can earn for the month of July 2017.

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(c) Calculate the **total** machine hours required to meet maximum demand for the month of July 2017.

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Additional information

Due to a machine breakdown, only 500 machine hours will be available for July 2017 production.

REQUIRED

(d) Calculate the maximum contribution **and** the maximum profit for the month of July 2017, taking into account the limited machine hours available.

[10]

Additional information

The directors of Y Limited have been told that they could hire a replacement machine for the month of July 2017 at a cost of $2500.

REQUIRED

(e) Advise the directors whether or not they should hire the replacement machine. Justify your answer by considering **both** advantages and disadvantages of hiring the replacement machine.

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(f) State **three** short-term decisions, other than limiting factor decisions, where marginal costing would be useful.

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Additional information

The following information is available for another division of Y Limited. The division operates a system of absorption costing with two production departments.

	Department 1	Department 2
Budgeted overheads	$560 000	$304 000
Actual overheads	$533 000	$294 000
Budgeted labour hours	140 000 hrs	46 000 hrs
Actual labour hours	124 000 hrs	54 000 hrs
Budgeted machine hours	27 000 hrs	160 000 hrs
Actual machine hours	33 000 hrs	151 000 hrs

REQUIRED

(g) Calculate to **two** decimal places an appropriate overhead absorption rate for **each** department.

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(h) Calculate the over absorption or under absorption of overheads for **each** department.

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