

**Problem:**

A Super Classic Boats Limited produces custom wood boats. Each boat is unique and built upon customer order. During October 2012, Classic Boats began production of three customer orders – Boat A, Boat B and Boat C. The followings are selected data for the month of October:

(1) Purchased production materials totaling \$225,000

(2) Direct material and direct labor used:

	Boat 1	Boat 2	Boat 3
Direct material cost (\$)	38,800	19,300	22,500
Direct labor cost (\$)	7,400	5,900	3,250
Direct labor hours (Hrs)	350	275	150

(3) Indirect material used for the three jobs: \$43,500

(4) Machine hours for the three jobs: 114 hours (estimated total machine hours for the year is 3,690 hours)

(5) The manufacturing process is mainly labor intensive and it is estimated that 9,840 labor hours is the total for the current year of operation.

(6) Estimated the overhead cost for the year 2012 is \$59,040.

**Solution:**

1. Calculate the pre-determined overhead rate based on labor.
2. Calculate the manufacturing cost for Boat 1, Boat 2 and Boat 3.
3. If the actual overhead cost of the month for Boat 1 and Boat 2 are \$2,000 and \$1,700 respectively, calculate the amount of over or under allocation of overhead cost to the management.
4. This company also produces the small safety boats for emergency. The company incurred monthly fixed operating cost of \$150,000 which includes sales and administrative expenses. The variable cost per unit for producing each unit of safety boat costs \$450. This includes direct material cost, direct labor costs and factory overhead costs. The company produced 500 units per month and the selling price is \$1,000 per unit. How much is
  - i) the unit contribution margin of the product and
  - ii) the break-even sales in units and ringgit (\$).