

Story Problem: please join your colleagues in groups of 3-4 to work on the answers during lunch

STAFF	TOTAL HOURS WORKED	UTILIZATION RATE	TOTAL SALARY	DIRECT LABOR (DOLLARS)	DIRECT LABOR (HOURS)	BILLING RATE	2013 POTENTIAL BILLINGS
Principal	2080	30%	\$150,000	\$ 45,000	624	\$180	\$112,320
Senior Designer	2080	65%	\$100,000	\$ 65,000	1352	\$150	\$202,800
Senior Project Manager	2080	75%	\$ 80,000	\$ 60,000	1560	\$120	\$187,200
Project Architect	2080	85%	\$ 60,000	\$ 51,000	1768	\$90	\$159,120
Intern	2080	95%	\$ 40,000	\$ 39,000	1976	\$65	\$128,440
Office Manager	2080	10%	\$ 45,000	\$ 4,500	208	\$40	\$8,320
TOTALS				\$264,500			\$798,200

1. In the previous year, MK Architects recorded:

- net revenue of \$758,000
- overhead expense of \$400,000 (includes indirect labor, payroll burden, general expense)
- direct labor expense of \$264,500

Based in this information, **answer the following questions** about the **previous year's results**:

- A. What was the overhead rate?
- B. What was the break-even multiplier?
- C. What was the multiplier achieved? What do you know from the result?
- D. What were the profit and the profit rate? What would you do with the profit?

2. Based on backlog of signed contracts, MK has projected net revenue of \$950,000 for the coming year. The principal has determined that two new project architects are needed to complete the work. **Can MK afford to hire two new project architects?**
 [Assume the same salary, hours worked, and utilization rates as the current project architect]

3. Based on previous year results:
- A. Determine the “cost rate without overhead” (salary only) of each firm member
 (total salary ÷ total hours; full time work = 2080 hours)
 - B. Determine the break-even billing rate for each staff member
 (cost rate x break-even multiplier)
 - C. Determine the billing multiple for each firm member, to achieve a 15% profit,
 HINT: break-even billing rate divided by the complement of the desired profit ratio
 equals the profitable billing rate
 - D. Determine recommended billing rates

	Cost Rate	Break-even Billing Rate	Billing Rate with 15% profit	Recommended Billing Rates
Principal				
Senior Designer				
Senior Project Manager				
Project Architect				
Intern				
Office Manager				

Hints to help:

For question #1:

Overhead rate = overhead expense ÷ direct labor expense (DL)

Break-even multiplier = overhead rate + 1

Multiplier achieved = net revenue ÷ DL

Profit or Loss = net revenue – (overhead + DL)

Profit Rate = profit or loss ÷ net revenue

For question #2:

Determine the new direct labor expense (DL) with additional project architects

Assume the overhead rate remains constant

Determine the new overhead expense (DL x overhead rate)

Determine the profit projection (net revenue forecast – (new overhead + new DL))

Determine the projected profit rate (projected profit ÷ net revenue forecast)

Decide what to do...

For question #3:

Cost rate without overhead is total salary / (2080 x FTE)

full time equivalency = 2080 hours

Break-even billing rate = cost rate x break-even multiplier

Billing rate that includes a profit rate goal is break-even billing rate divided by the complement of the desired profit