Problem 2-19

1.

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| --- | --- | --- | --- | --- | --- |
| Cost Item | Cost Behavior | | Selling or Administrative Cost | Product Cost | |
| Variable | Fixed | Direct | Indirect |
| Factory labor, direct | $118,000 |  |  | $118,000 |  |
| Advertising |  | $50,000 | $50,000 |  |  |
| Factory supervision |  | $40,000 |  |  | $40,000 |
| Property taxes, factory building |  | $3,500 |  |  | $3,500 |
| Sales commissions | $80,000 |  | $80,000 |  |  |
| Insurance, factory |  | $2,500 |  |  | $2,500 |
| Depreciation, administrative office equipment |  | $4,000 | $4,000 |  |  |
| Lease cost, factory equipment |  | $12,000 |  |  | $12,000 |
| Indirect materials, factory | $6,000 |  |  |  | $6,000 |
| Depreciation, factory building |  | $10,000 |  |  | $10,000 |
| Administrative office supplies(billing) | $3,000 |  | $3,000 |  |  |
| Administrative office salaries |  | $60,000 | $60,000 |  |  |
| Direct materials used (wood, bolts, etc.) | $94,000 |  |  | $94,000 |  |
| Utilities, factory | $20,000 |  |  |  | $20,000 |
| Total | $321,000 | $182,000 | $197,000 | $212,000 | $94,000 |

2. average product cost of one patio set = ($212,000+$94,000)/2000 = $153

3. Because there are fixed costs which are not changed by production level, I expect the average product cost per set would increase from when production drops to 1,000 sets.

4 – a. Brother-in-law may think that ‘at cost’ means only direct product cost, but when considering the cost, he should also consider selling or administrative cost and indirect cost.

4 – b. The term is opportunity cost. Because the company has no more producing ability, if it sells to its products to brother-in-law at cost, it loses its opportunity to sell at regular price to original consumers. Thus, the company’s price ‘at cost’ is same as regular price.

Problem 3-17

1. First, because supervisory salaries are fixed, it is $21,000 in July. Second, utilities are variable and the machine-hours difference between in May and July is 30,000. Thus, utilities are estimated at $48,000/60000\*90000 = $72,000. Finally, maintenance cost in July is $246,000 – ($21,000 + $72,000) = $153,000.

2. Suppose cost formula for maintenance is Y = a + bX.

, a = $105,000 – 1.6 \* 60000 = $9,000

Thus, cost formula for maintenance is Y = 9,000 + 1.6X

3. Utilities per machine-hours is $48,000/60000 = $0.8 and supervisory salaries is fixed.

Thus, the company’s total overhead cost is Y = (9,000 + 21,000) + (1.6+0.8)X = 30,000 + 2.4X

4. If machine-hours of the company is 75,000, the total overhead cost is expected to be $30,000 + 2.4 \* 75000 = $210,000.