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**Subject: Business Mathematics**

**Assignment submission to: Sir liaqat Ali**

**The topic of assignment: Statement Problems**

**Question#1**

What number increased by 25 gives 85?

**Answer**

let the no. be x

so,

x + 25% of x = 85

x + 25/100 \* x = 85

x + x/4 = 85

5x/4 =85

x = 85\* 4/5

x = 68

**Question#2**

Heat and electricity together cost a company Rs: 1080 for the month of January. If the consumption for heating purposes is three times as much as light, how much each expense cost to the company?

**Answer**

Heat Expense is 720

Light Expense is 360

**Question#3**

A group bonus is divided among 4 employees in the ratio of their basic salaries. Ratio is 7, 4, 2 and 5 respectively. If a total bonus is Rs. 540; calculate the amount received by each employee.

**Answer**

let x = the multiplier  
then the each bonus would be 7x, 4x, 2x, 5x  
a simple equation  
7x + 4x + 2x + 5x = 540  
18x = 540  
x = 540/18  
x = 30  
the bonus for each  
30(7) = 210  
30(4) = 120  
30(2) = 60  
30(5) = 150  
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Total = 540

**Question#4**

A father is four times as old his son now. After 24 years he would be twice as old as his son. What are the present ages of the father and the son?

**Answer**

Let x be the age of his son now, then the age of the father is 4x.  
In 24 years,  
The son's age = x + 24  
The father's age = 4x + 24  
As in 24 years the father will be twice as old as his son, we can set up an equation:  
4x + 24 = 2(x + 24)  
Solving the equation for x, we have  
4x + 24 = 2x + 24  
2x = 24  
x = 12  
So the age of his son now is 12, and the age of the the father now is 48.

**Question#5**

The sum of the ages of a girl and her brother is 26 years. Three years ago her age was four times the age of her brother. Find the present age of the girl and her brother.

**Answer**

1. Let girl be x and boy be y.  
   x+y=26  
   x=26-y  
   3 years ago;  
   boy was y-3  
   girl was x-3  
   since girl was 4 times age of girl,  
   x-3=4(y-3)  
   x-3=4y-12  
   since x=26-y  
   (26-y)-3=4y-12  
   23-y=4y-12  
   23+12=4y+y  
   35=5y  
   y=7  
   x=26-7  
   x=19  
   hence girl is 19years and boy is 7years

**Question#6**

The sum of two numbers is 84, and one of them is 12 more than the other.  What are the two numbers? (36 and 48)

**Answer**

a)Let x+y=84  
x=y+12  
  
b) x+y=84  
y+12+y=84  
2y=84-12  
2y=72  
y=36  
  
c) x=y+12  
x=36+12  
x=48  
therefore the two nos. are 36 and 48.

**Question#7**

List price = $150

Trade discount = 20%

Find the net cost

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**Question#8**

Example#2

List price = $150

Trade discount = 20/10 (series discount)

Find the net cost

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**Question#9**

Selling price = $18.75

Cost = $15

Markup based on cost = ?

Percent markup based on cost = ?

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**Question#10**

The Tower Market sells aspirin for $3.38 per 100-tablet bottle. If they pay $2.60 per bottle, find the markup percent on cost.

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**Question#11**

Bismark Tractor put a markup of 26% on cost on some parts for which they paid $4.50. Find (a) selling price as % of cost (b) the selling price (c) the markup.

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