**Assignments**

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**Subject Business Mathematics**

**Semester 1st**

**Department BBA**

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**Question No 1:-** What number increased by 25 gives 85?

**Solution:-**

Let the number is = x

x + 25 = 8 5

x = 85 – 25 = 60

Answer x = 60

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**Question No 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?

**Solution:-**

Heat and Electricity cost = 1080

Let the consumption of Light = x

Consumption of Heat is = 3 x

How much each expense cost to company?

Given Answer 1 + 3 = 4

​ So, the expenses of light = ¼ x 1080

= 1080/4

Expenses of light = 270

​ ​Now the expenses of heat?

​ ​Expenses of Heat = ¾ ×1080

For simplification first we will multiply 1080 by 3 and then the total of them will be divided by 4

3 x 1080 = 3240

= 3240/4 = 810

Expenses of heat = 810

For Verification: 810+270 = 1080

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**Question No 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.

**Solution:-**

For convenience employees are given ordinal numbers

1st Employee have 7 Ratio

2nd Employee have 4 Ratio

3 rd Employee have 2 Ratio

4th Employee have 5 Ratio

To find out the amount received by each employee

Sum of Ratios 7+4+2+5 = 18

Each share of employees 540/18 = Rs 30

Share of 1st Employee = 7 x 30 = Rs 210

Amount of 1st employee = RS 210

Share of 2nd employee 4 x 30 = Rs 120

Amount of 2nd employee = Rs 120

Share of 3rd employee= 2 x 30 = Rs 60

Amount of 3rd Employee = RS 60

Share of 4th Employee = 5 x 30 = Rs 150

Amount of 4th Employee=150

Note: Verification total bonus = 210+120+60+150 = Rs 540

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**Question No 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?

**Solution:-**

Let son's age is x years

Father is 4 times older than his son hence father age will be 4x

In 20 years he will be twice as old as his son. After 20 years their ages will be

Son age = x + 24

Father's age = 4x + 24

4x + 24 = 2 (x + 24)

Solving the equation

4x + 24 = 2x + 48

4x - 2x = 48 - 24

2x = 24

x = 12

The son's present age is 12 years

Father's age is 4x= 4 × 12 = 48 years.

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**Question No 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.

**Solution:-**

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 = 35/5

y=7

x=26-7

x=19

Hence girl is 19years and boy is 7years

**Question No 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)

**Solution:-**

Let suppose,

The first number is x

The second number is y

So according to the given condition the sum of these two numbers is 84, so we can write

x + y=84 ————-(1)

Again one of them is more than 12 than the other that's why we can write,

x+12=y ------------- (2)

Now putting the values of y in equation (1) we get,

x+x+12=84

2x+12=84

2x+12–12=84–12

2x=72

2x/2=72/2

x=36

Taking the value of x in equation (2) we get,

36+12=y

y=48

The two numbers are 48 and 36.

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**Question No 7:-**

List price = $150

Trade discount = 20%

Find the net cost

**Solution:-**

As we know that list price is the suggested retail price of product at which

Manufacturers recommend that the retail sell the product. So,

Net cost = 150-0.2 (150)

150-30 = 120

Net Cost = 120

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**Question No 8:-**

List price = $150

Trade discount = 20/10 (series discount)

Find the net cost.

**Solution:-**

Discount Series = 100% - 20% = 80%

= 100% - 10% = 90%

Now we will write the complaints as discount

So

Net decimal equivalent = (0.8 x 0.95) = 0.72

Now

Net Cost = Net decimal equivalent x List price

Net cost = 0.72 x 150

Net cost = 108

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**Question No 9:-**

Selling price = $18.75

Cost = $15

Markup based on cost =?

Percent markup based on cost =?

**Solution:-**

As we know that

Markup = price-cost/cost

Markup = 18.75-15/15

Markup = 3.75/15 = 0.25

Markup = 0.25 or 25%

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**Question No 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.

**Solution:-**

As we know that

Markup% = (selling price – cost price) / cost price x 100%

Markup = $3.38- $2.60/$2.60

Markup = ($0.78 / $2.60) x 100%

Markup = 0.3 x 100% = 30%.

The markup percentage on cost = 30%.

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**Question No 11:-**

Bismarck 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.

**Solution:-**

**a) Selling Price as Percentage of cost?**

Selling Price = 5.67

Percentage of cost = 100

So, 5.67/100

Selling price as % of cost = 0.0567 or 5.67%

**B) Selling price =?**

As we have formula

Markup on cost = (price-cost/cost)

Markup on cost = 0.26 (price-4.50/4.50)

By cross multiplications

0.26x4.50 = price-4.50

1.17 = price-4.50

Price = 1.17+4.50

**Selling price = 5.67**

**c) Markup.**

Markup = selling price-cost/cost

Markup = 5.67-4.50/4.50

Markup = 1.17/4.50

Markup = 0.26 or 26%

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**THE END**