

**Name:** Amir Khan

 **Id:** 14692

**Department:** Bachelors of Business Administration

**Semester**: 4th

**Subject:** Business Mathematics

**Instructor**:

**University:** Iqra National University Peshawar

Final Term Paper

Q1:

1. E
2. B
3. B
4. E
5. C
6. E
7. E
8. E
9. E
10. B

Q2: part A

Solution

Let x and y be present ages of son and father respectively

Y= 4x -------- (1)

After 24 year the ages will be

Y+24 = 2(x + 24)

y + 24 = 2x 48

Y-2x =48- 24

Y-2x = 24 -------- (2)

Put y= 4x in eq. (2) i.e.

y- 2x = 24

4x- 2x = 24

2x= 24

X=12

Put x= 12 in eq.1

Y=4 x 12

Y=48

Question 2 Part (b)

X+3y=-1/3

4x-1/5y=2/2

Let,

X+3y=-1/3  eq (1)

4x-1/5y=2/2  eq (2)

Now, multiply eq(1) by 4 then substract eq(2) from eq(1)

4x + 12y = -4/3

+4x - 1/5y = +2/2

12y + 1/5y = -4/3 – 1

61y/5 = -7/3

61y = -7\*5/3

61y = -35/3

y = -35/61\*3

y = -35/183

know putting value at y in eq(2)

4x – 1/5(-35/183) =2/2

4x + 7/183 = 1

4x = 1 - 7/183

4x = 183-7/183

4x = 176/183

X = 176/183\*4

X = 44/183

So,

X = 44/183 and y = -35/183

**Question 3(a)**

$$\frac{x^{-3}}{x^{-3/2}}÷\frac{x}{x^{3/4}y^{-2}}×\frac{x^{2}y^{-3}}{y^{1/3}}$$

$$\frac{x^{-3}}{x^{-3/2}}×\frac{x^{3/4}y^{-2}}{x}×\frac{x^{2}y^{-3}}{y^{1/3}}$$

$$\frac{x^{-3}}{x^{-3/2}}=\frac{1}{x^{3/2}}$$

$$=\frac{1}{x^{3/2}}×\frac{x^{3/4}y^{-2}}{x}×\frac{x^{2}y^{-3}}{y^{1/3}}$$

$$\frac{x^{3/4}y^{-2}}{x}=\frac{1}{x^{1/4}y^{2}}$$

$$=\frac{1}{x^{3/2}}×\frac{1}{x^{1/4}y^{2}}×\frac{x^{2}y^{-3}}{y^{1/3}}$$

$$\frac{x^{2}y^{-3}}{y^{1/3}}=\frac{x^{2}}{y^{10/3}}$$

$$=\frac{1}{x^{3/2}}×\frac{1}{x^{1/4}y^{2}}×\frac{x^{2}}{y^{10/3}}$$

$$\frac{1×1×x^{2}}{x^{3/2}x^{1/4}y^{2}y^{10/3}}$$

$$\frac{x^{2}}{x^{\frac{3}{2}+1/4}y^{2+10/3}}$$

Apply exponent rule:-

$$\frac{x^{2-(\frac{3}{2}+\frac{1}{4})}}{y^{2+10/3}}$$

$$\frac{x^{1/4}}{y^{16/3}}$$

**Q3: Part B**

Find the value of x by using logarithmic laws

 x^3=[7 ×7 ×7 (0.4500 ×0.4500)] / [0.0004(0.0205)^4 ]

x^3=[7 ×7 ×7 (0.4500 ×0.4500)] / [0.0004(0.0205)^4 ]

x^3=69.4575 / (7.0644×〖10〗^11 )

x^3=69.457×7.0644×〖10〗^(11)

〖(x^3〗\_3^1)=〖(69.457×7.0644×〖10〗^11) (3^1)

X= 9943.67 Answer

Q4:-

U =( 2,4,6,8,10,12,14,16,18,20,22)

A = (4, 8, 12, 16)

B=(4,8,12)

C=(2,4,6,8,10,12,14,16,18)

Show that

A, (AUB)=AnB

AuB=(4,8,12,16)u(4,8,12)

AuB(4,8,12,16)

AuB=U(AuB) (2,4,6,8,10,12,14,16,18,20,22)

(4,8,12,16)

AuB(2.6.10,14,18,20,22)

A=U[A=(2,4,6,8,10,12,14,16,18,20,22)

(4,8,12,16)

A\*(2,6,10,14,18,20,22)

B\*=U[B= (2,4,6,8,10,12,14,16,18,20,22)

(4,8,12)

B\*=(2,6,10.14,16,18,20,22)

A\*UB\*=(2,,10,14,18,20,22)U(2,6,10)

(14,16,18,20,22)

A\*UB\*=(2,6,10,14,18,20,22)

An(Buc)= (AnB)U(AnC)

An(BuC)

BuC=(4,8,12)U(2,4,6,8,10,12,14,16,18)

BUC=(2,4,6,8,10,12,14,16,18)

An(buC)= (4,8,12,16,)n(2,4,6,8,10,12)

An(buC)= ( 4,8,12,16)

(AnB) u (Anc) = ?

A= (4,8,12,16), B= (4,8,12)

AnB= (4,8,12,16)n(4,8,12)

AnB=(4,8,12) ------------ 1

AnC= (4,8,12,16) n ( 2,4,6,8,10,12,14,16,18)

AnC=(4,8,12,16) --------- 2

Eq 1 and Eq2

(AnB)u(AnC)= (4,8,12) u (4,8,12,16)

(Anb )u(AnB) = (4,8,12,16)

Therefore An(BuC)=(AnB)u(AnC)

Hence proved

Q5: part A

List price = 150$

Trade discount = 20$

Find net cost=?

Complement rate =100% - trade discount

                             =100% - 20%

                             =80%

Net price = complement rate \* list price

               = 80% \* 150

               = 80/100 \* 150 => 120 answer

Q5 Part b

 Cost price = $10

Markup = $6.20

Find markup percent on cost, also find Selling price

Solution:

Markups = S.P – COST

$6.20 =S.P – 10$

$6.20 +$10 =S.P

$16.20 = S.P

% Markup = x100

% Markup = x100

% Markup =162%