

Q1. Average of first 4 multiples of 5.

Answer1.  $5+20/2= 25/2 = 12.5$

Second method :  $5+10+15+20 = 50$  for average divide by 4.  $50/4 = 12.5$

Q2. Sum of mother and daughter ages is 50. Five years ago mother was 7 times as old as daughter. Find their present ages.

Ans 2. Let x be mother age and y be daughter age

$$x+y = 50 \gg \text{eq1}$$

$$x-5 = 7(y-5)$$

$$x-5 = 7y -35$$

$$x-7y = -30 \gg \text{eq2}$$

subtract eq2 from 1 we get !!!

$$8y = 80$$

$$Y = 10 \text{ daughter age}$$

Now put  $y=10$  in eq1 u will get  $x= 40$  which is mother age... so 40 and 10 are the answers.

Q3.  $1/\cos@ * 1/\tan@ * \sin^2@$

Answer 3.  $1/\tan@ = \cot@ = \cos/\sin$  so put it in above

$$1/\cos * \cos/\sin * \sin^2@$$

Cos will cancel and one sin will cancel

So u will get only  $\sin@$  as a result

$$\text{Ans} = \sin@$$

Q4. N is an integer when divide by 8 gives remainder 3 . what will be remainder when  $2n$  is divide by 8?

Answer . method 1.. since  $2n$  is here so multiply remainder with 2 so  $3*2= 6$ . 6 is answer

Method 2 . suppose a number which is divide by 8 give 3 remainder. Let the number is 11.  
now double it. So  $2n = 22$ .. so 22 divide by 8 gives 6 remainder.

Q5. Three persons Anam, Furqan and Farhan have shares of 3:5:7 respectively. If Furqan share is 500. Find the difference between x and z shares.

Answer 5. Let the shares are  $3x$  ,  $5x$  ,  $7x$ .

Furqan share is given =  $5x = 1500$  means  $x = 1500/5 = 300$

Now anam share =  $3*300 = 900$

Farhan share =  $7*300 = 2100$

Difference of both =  $2100 - 900 = 1200$  answer.

Q6. Length of rectangle is twice as width. If perimeter is 48. Find its area.

Answer. Hence  $L = 2W$

Formula for perimeter of rectangle =  $2(L+W) = 48$

$$2(2W + W) = 48$$

$$2(3W) = 48$$

$$6W = 48$$

$$W = 8$$

$$\text{Hence } L = 2W \text{ so } L = 2*8 = 16$$

$$\text{So area of rectangle} = L*W = 8*16 = 128$$

Q7. Clock angle at 3:00 am

Formula for clock angle

$$30 * \text{hour} - 5.5 \text{ minute}$$

$$30*3 - 5.5 * 0 = 90 \text{ degree}$$

Q8. If  $w = 2x = \sqrt{2}y$ . then find  $w-x$  in terms of  $y$ .

Find w and x...

$$W = \sqrt{2y}$$

$$2x = \sqrt{2y} \text{ so } x = \sqrt{2y}/2$$

$$\text{So } w-x = \sqrt{2y} - \sqrt{2y}/2 = \sqrt{2y}/2 \text{ required answer}$$

Q9. What should be added to  $9x^2+2x+25$  to make it perfect square. Options were  $32x^2$  ,  $30x^2$  ,  $-32x$  ,  $-30x$

So  $-32x$  is when added it will give a perfect square.

$$9x^2+2x-32x+25 = 9x^2-30x+25 = (3x-5)^2$$

$$(3x)^2 - 2(3x)(5) + 5^2 \text{ . } \text{ so } -32x$$

Q10. An equation  $x^2 + 5x + c = 0$  has only 1 value of x or 1 root. Find value of c.

Options were 6.25 , -6.25 , 0 , 2.25 , -2.25

Means make it perfect square.

$$X^2 + 2(2.5)(1)x + (2.5)^2$$

$$\text{So } c = (2.5)^2 = 6.25$$

Q11. A circle passes through origin has co ordinates (1,1). Find area of circle.

Bit confusion in this. Options were  $\pi$ ,  $2\pi$ ,  $\sqrt{2}\pi$  ,  $4\pi$  ,

Somehow if  $r=1$  the area  $= \pi$

$$\text{If } r = \sqrt{2} \text{ then area} = (\sqrt{2})^2 \cdot \pi = 2\pi \dots$$

Q12. Set = {2,4,6,8,10}. Find probability of getting an even number.

Answer. Since all numbers are even. So probability is 1.

Q13. A fair dice is rolled. Find probability of getting 3 on assumption that odd number will occur.

Answer. Hence there are 3 odd numbers in a dice. So sample space = 3

And getting a 3 when assumption is odd number =  $1/3$

Q14. This question I don't remember but answer was  $\sqrt[3]{48a^4b^6}$ . I think...

Q15. There are 3 boys and 5 girls in a room. If equal number of boys and girls are added for a membership then the ratio becomes 3:4. Find total number in the room now.

Answer.  $3+x / 5+x = 3/4$

Cross multiply

$$3x + 15 = 4x + 12$$

$$X = 3$$

So 3 boys and 3 girls are added. Now total boys = 6 girls = 8

So total strength = 14. Option B it was

Q16. If  $(x\#y) = xy + 1/2$  find value of  $(3\#5)\#2$ .

So first of all  $(3\#5) = 3*5 + 1/2 = 16/2 = 8$

Now  $(8\#2)$

$8*2 + 1/2 = 17/2$  option B it was.

Q17. A share was given 2:3:7. I don't remember amount. But question find greatest share.

So sum of ratio =  $2+3+7 = 12$

Greatest =  $7/12$  \* given amount... this is the method

Q18.  $0.4 + 0.2 * 0.2 - 0.3$

$$0.4 + 0.04 - 0.3$$

$$0.44 - 0.3 = 0.14$$

Q19. Mode of 11,13,12,13,15,15,13,14,17,13,16.

Most repeated digit is 13. Hence mode is 13.

Q20. Find median. 11 ,19 , 15 , 12, 13, 19, 15 ,15, 13, 19,17.

Arrange in ascending order. 11,12,13,13,15,15,15,17,19,19,19

Total numbers = 11 which is odd. 6<sup>th</sup> number is median..

15 is median

Q21. If  $(x-1/x) = 10$  . find value of  $x^2+1/x^2$

Take square both sides

$$(x-1/x)^2 = (10)^2$$

$$X^2+1/x^2 - 2 = 100$$

$$X^2+1/x^2 = 102$$

Q22. Question was like this

Arrange number of people in equal number of rows and columns if there are 5929 total number. Options were 87,77,97,67

Simply take square root. 77 is answer.

$$77 * 77 = 5929.$$

Q23.  $987 * \dots\dots\dots = 986013$

So divide given number by 987 . Answer is 999. Option a it was

Q24.  $(\cos @ + \sin @)^2$

Ans =  $1 + 2\cos @ \sin @$

Q25. Ratio of maria age and bisma age is 4:5. And ratio of bisma to kiran is 3:2.

Find ratio of maria to kiran.

Maria	:	Bisma	:	Kiran
4	:	5		
		3	:	2
<hr/>				
12	:	15	:	10

So  $M : k = 12 : 10 = 6:5$

Q26.  $3x + 7 = 2x - 6$  . find value of x

$X = -13$

Q27.  $3x-2/2x-1 = 2/3$

Question was like this... find value of x..

Cross multiply and solve for x

Q28. One was Of salary

Ahmad spend  $2/5$  on clothes.  $2/8$  on other expenses . $1/10$  on another.

and still left with 1400. Find his salary...

$$\text{so } 2/5 + 2/8 + 1/10 = 16+13+4/40 = 33/40$$

$$1 - 33/40 = 7/40$$

$$7/40 x = 1400$$

$$x = 1400 * 40 / 7 = 8000$$

Q29. Rhombus question.. I don't remember..

Q30. Sale price of an object increases 30% in first month and 10% in second month. Find total increase

Ans is 43%

Let sale price = x

$$X + 0.3x = 1.3x$$

$$\text{Now } 1.3x + 0.1(1.3x) = 1.3x + 0.13x = 1.43x$$

$$\text{So } 1.43x - x = 0.43 \text{ or } 43\%$$

Q31. Zakaat on 1236560

Divide 1236560 by 40

Ans is 30914

Q32. 25 cm rope has mass of 375 gms. Find mass of 15 cm. options.

205, 215, 225, 325, cannot determined

$$375 * 15 / 25 = 225 \text{ gm}$$

## English part

## Antonyms of

1. Hearsay
2. Exhibit
3. Animated
4. Dearth
5. Ostensible

## Analogies of

1. Dimmed ; light
2. Vertex : cone
3. Fragile : break
4. Mildew : dankness
5. Depth : fissure

***By Asif Nawaz***

***UET Peshawar !!!!!***

***Remember in your prayers !!!***