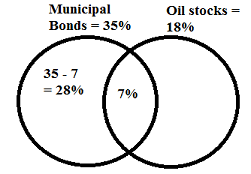
1) Of the following, which is the closest approximation of (50.2\*0.49)/199.8 ?  
Ans: For approximation (50.2××0.49)/199.8 can be taken as  
50××0.5/200 = 25/200 = 1/8 = 0.125  
  
2) How many prime numbers between 1 and 100 are factors of 7150?  
Ans: 7, 150 = 2×52×11×132×52×11×13  
So there are 4 distinct prime numbers that are below 100  
  
3)  Among a group of 2500 people, 35 percent invest in municipal bonds, 18 percent invest in oil stocks, and 7 percent invest in both municipal bonds and oil stocks. If 1 person is to be randomly selected from 2500 people, what is the probability that the person selected will be one who invests in municipal bonds but not in oil stocks  
Ans: Here 2500 does not require.

[](https://2.bp.blogspot.com/-ExxI_7-qHWM/UIL2YFz51rI/AAAAAAAACXE/gAb8ad0cs9U/s1600/oil+stock.png)

From the diagram we know that only ones who invested in municipal bonds are 28%, the probability is 28 / 100 = 7/25  
  
4) Country Club has an indoor swimming club. Thirty percent of the members of a swim club have passed the lifesaving test. Among the members who have not passed the test, 12 have taken the preparatory course and 30 have not taken the course. How many members are there in the swim club?  
Ans: 30 + 12 = 42 did not pass the test. This is equal to 70 % of the total members. So total members = 100/ 70 x 42 = 60  
  
5) A necklace is made by stringing N individual beads together in the repeating pattern red bead, green bead, white bead, blue bead and yellow bead. If the necklace begins with a red bead and ends with a white bead, then N could be:  
Ans: The pattern is R G W B Y R G W B Y R .......  
So, White bead comes at  these positions 3rd, 8th, 13th, 18th...  
If we take this as a arithmetic progression, then this series can be expressed as 3 + (n - 1) 5. ( From the formula for general term of AP = a + (n-1)d).  
This can be expressed as 5n - 2  
We check the answer options so only 68 satisfy the condition.  
  
6) A dog taken four leaps for every five leaps of hare but three leaps of the dog is equal to four leaps of the hare. Compare speed?  
Ans: In terms of number of leaps, the ratio of the Dog and hare speeds are 4 : 5  
But Given that 3 leaps of dog = 4 leaps of hare,.  i.e., Leap lengths = 4 : 3 (If Dog is covering in 3 leaps what hare as covered in 4 leaps then Leap lengths are inversely proportional)  
So Dog speed = 4 x 4 = 16  
Hare speed = 5 x 3 = 15  
So speeds ratio = 16 : 15

7)  There are two boxes,one containing 39 red balls & the other containing 26 green balls.you are allowed to move the balls b/w the boxes so that when you choose a box random & a ball at random from the chosen box,the probability of getting a red ball is maximized.this maximum probability is  
Ans: Very interesting question.  
As we are allowed to move the balls, we keep only one red ball in first box and move all the remaining balls to the second box  
So fist box contains 1 redball, second box contains 38 red + 26 green = 64 balls  
Probability of choosing any box is 1/ 2.  
So probability of taking one red ball = 12×(1)+12(3864)≃0.812×(1)+12(3864)≃0.8  
  
8)  In how many ways can 3 postcards can be posted in 5 postboxes?  
Ans: First card can go into any of the five boxes, Second can go into any of the five boxes, Third can go into any of the five boxes = 5×5×5=1255×5×5=125  
  
9)  Apple costs L rupees per kilogram for first 30kgs and Q rupees per kilogram for each additional kilogram. If the price of 33 kilograms is 11.67and for 36kgs of Apples is 12.48 then the cost of first 10 kgs of Apples is  
Ans: By framing equations we get  
30L+3Q=11.67  
30L+6Q=12.48  
Eliminate Q by multiplying the first equation by 2 and subtracting second equation from the first  
Then we get L = 0.362  
Cost of 10 kgs of apples = 0.362 x  10 = 3.62  
  
10) letters in the word ABUSER are permuted in all possible ways and arranged in alphabetical order then find the word at position 49 in the permuted alphabetical order?  
a) ARBSEU  
b) ARBESU  
c) ARBSUE  
d) ARBEUS  
Ans: The best way to solve this problems is Just ask how many words starts with A. If we fix A, then the remaining letters can be arranged in 5! ways = 120. So the asked word must start with A.  
Arrange all the given letters in alphabetical order. ABERSU  
Let us find all the words start with AB.   AB\*\*\*\* = 4!= 24 ways  
Now we find all the words start wit AE.  AE\*\*\*\*= 4!= 24 ways  
So next word start with AR and remaining letters are BESU  
So option B  
  
11) A is twice efficient than B. A and B can both work together to complete a work in 7 days. Then find in how many days A alone can complete the work?  
Ans: Let us assume A can do 2 units of work each day, then B can do only 1 unit a day.  If both can complete the work in 7 days, total work done by these two togeter = (2 + 1 ) x 7 = 21 units  
If these 21 units to be done by A alone, then he will take 21 / 2 = 10.5 days.  
  
12) In  a 8 x 8 chess board what is the total number of squares.  
Ans: The total number of squares in a n x n chess board is equal to "the sum of first n natural number squares"  
i.e., n(n+1)(2n+1)6n(n+1)(2n+1)6  
So Substituting 8 in the above formula we get 204  
  
13) X, Y, W and Z are intezers and the expressing X - Y - Z is even and Y - W - Z is odd.  If X is even then which of the following is true?  
(a) Y must be odd   
(b) Y-Z must be odd   
(c) W must be odd   
(d) Z must be odd  
Ans. If X is even and X - Y - Z is even then Y and Z both should be odd or both should be even.  
If Y - W - Z is odd, and Y and Z are also odd W should be odd  
If Y - W - Z is even, and Y and Z are even then W should be odd.  
So option C is correct. i.e., W must be ODD  
  
14) The remainder when 1!+2!+3!...+50! divided by 5! will be  
The remainder when the terms greater than 5! are divided by 5! becomes 0 so we need to consider the terms upto 4!.  
So remainder will be whatever is obtained by dividing 1!+2!+3!+4! with 5!.  
So remainder is obtained by dividing (1+2+6+24)= 33 with 5! ( 120)  
So remainder is 33.  
  
15)  If there are Six periods in each working day of a school, In how many ways can one arrange 5 subjects such that each subject is allowed at least one period?  
Ans. To arrange 6 periods with 5 subjects, then one subject can be arranged in two slots.  
5 Subjects can be arranged in 6 periods in 6P56P5 ways and now we have 1 period which we can fill with any of the 5 subjects in 5 ways. so 6P5×5=6P5×5=3600  
Alternate method:  
Assume the subjects are X1, X2, A, B , C, D,. Here X is the subject which repeats. So arranging 6 objects in 6 places will be equal to 6! = 720 (here no need to divide this number with 2! as even though the subject is same, but not identical)  
But this repeated subect can be any of the five. So total arrangements are 720 x 5 = 3600  
  
16)  An article manufactured by a company consists of two parts X and Y. In the process of manufacturing of part X, 9 out 100 parts many be defective. Similarly , 5 out of 100 are likely to be defective in the manufacturer of Y. Calculate the probability that the assembled product will not be defective?  
a) 0.6485  
b) 0.6565  
c) 0.8645  
d) none of these  
Ans: Probability that the part X is nondefective is = 1 - 9/100=.91  
Probablity that the part Y is nondefective is = 1 - 5/100=.95  
so, Probablity of nondefective product=0.91××0.95=0.8645