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| **Set 2** | | |
| **HY ANSWER KEY (2023-24)** | | |
| **Subject: MATHS**  **Grade: XI** | | |
|  | **Multiple Choice Questions:** |  |
|  | c | |
| **2.** | b | |
| **3.** | b | |
| **4.** | a | |
| **5.** | d | |
| 6. | b | |
| 7. | a | |
| 8. | a | |
| 9. | d | |
| 10. | c | |
| 11. | a | |
| 12. | b | |
| 13. | c | |
| 14. | d | |
| 15. | b | |
| 16. | b | |
| 17. | c | |
| 18. | a | |
| 19. | d | |
| 20. | a | |
| **21.** | **y2+6=2x & y2+1=x** | |
|  | x=5 & y = |  |
| 22. | x |  |
| 23. | 2(45+30+1)=152 |  |
| 24. | Sn=6 |  |
| 25. | Mid-point (1,3) |  |
|  | Slope of line AB= ½ ; slope of the perpendicular =-2 |  |
|  | y-3= -2(x-1) ; 2x + y=5 |  |
| 26. | Equ of the perpendicular line is x+2y+k=0  Since (1,-2) lies on it k=3 equ is x+2y+3=0  Foot of the perpendicular is (-1,-1)  Length of the perpendicular is |  |
| 27. | a+b=5 & 2b-4a=ab  on solving a=10 or 1 and b=-5 or 4  equ are 4x+y=4 & x-2y=10 |  |
| 28. | nC1  Hence (a-b) is divisible by |  |
| 29. | x +i y=  x= & y=  &  -2( |  |
| 30 | = |  |
| 31. | Df = R-  x=  Case 1  y =  Case II  y =  Rf = |  |
| 32. | a) 3C1. 4C2 =18  b)5C1.4C4+5C2.4C3+5C3.4C2+5C4.4C1+5C5 =5+40+60+20+1=126  c) )5C1.4C4+5C2.4C3 =45 | 1  2  1 |
| 33. | Let the two numbers be a’a’ and ‘b’  a+b= 6    a-b =  2a= 6 + and 2b= 6 - |  |
| 34. | Let the slope of one of the side be ‘m’  Tan 45 =  m=  Equation of the sides are x-7y+12=0 & 7x+y=0 |  |
| 35. | =2 == |  |
| 36. | Let the shortest length be x; second length be x+3 and the third length be 2x  x+x+3+2x  4x  2x-x |  |
| 37. | Total number of selection =   1. =1680   1680=5880 | 1  2  1+1 |
| 38. | Since a,b,c,d are in GP ; b=ar, c=ar2 ; d=ar3  a+b=3 and ab=p  c+d=12 and cd=q  a+ar=3 & ar2+ar3=12  r2=4  b=ar=2 hence p=2 and q= cd= a2r5=32 |  |