1.	Square root of $3+4i$	$\pm(2+i)$
2.	Find $Arg(z_1)+Arg(z_2)$ if $Arg(\bar{z}_1)=\pi/5$ and $Arg(z_2)=\pi/3$	$2\pi/\ 15$ (Since $Arg(z_1)=-Arg(\bar{z}_1)=-\pi/5$)
3.	Value of xyz where $x,y,z=cisA,cisB,cisC$ and $A+B+C=\pi$	-1 (Using $cis(A+B+C)=cis(\pi)=\cos\pi+i\sin\pi$)
4.	Quadratic equation with roots $7\pm2\sqrt{5}$	$x^2-14x+29=0$
5.	Transformed equation with negative roots of $x^4+5x^3+11x+3=0$	$x^4-5x^3-11x+3=0$ (Replace x with $-x$)
6.	Number of derangements of 4 letters in 4 envelopes	9 (Using $D_n=n![1-\frac{1}{1!}+\frac{1}{2!}+\frac{1}{3!}+\frac{1}{4!}]$)
7.	Find ${}^{13}C_n$ if ${}^nC_5={}^nC_6$	78 (Here $n=5+6=11$, but ${}^{13}C_{11}=\frac{13\times12}{2}$)
8.	Number of terms in $(2x+3y+z)^7$	36 (Using formula $\frac{(n+r-1)!}{n!(r-1)!}$ where $n=7,r=3$)
9.	Variance of 6, 7, 10, 12, 13, 4, 8, 12	9.25 (Mean $\bar{x}=9$, Variance $\sigma^2=\frac{\sum(x_i-\bar{x})^2}{n}$)
10.	Find $P(X=5)$ if $P(X=1)=P(X=2)$ for Poisson variable	$\frac{32}{15}e^{-2}\approx0.2873$ (Mean $\lambda=2$)

Q. No.	Solution Steps	Final Answer
11	1. Let points be A(2,1),B(4,3),C(2,5),D(0,3).2. Calculate side lengths using d=(x2−x1)2+(y2−y1)2.3. AB=BC=CD=DA=8.4. Calculate diagonals: AC=(2−2)2+(5−1)2=4; BD=(0−4)2+(3−3)2=4.	Points form a Square (Sides equal, Diagonals equal)
12	1. Let y=x2−5x+9x.2. Form quadratic: yx2−(5y+1)x+9y=0.3. For x to be real, Discriminant D≥0.4. (5y+1)2−4(y)(9y)≥0⟹−11y2+10y+1≥0.5. (11y+1)(1−y)≥0.	Range: [−1/11,1]
13	1. Word: MASTER. Alphabetical order: A, E, M, R, S, T.2. Words starting with A: 5!=120.3. Words starting with E: 5!=120.4. Words starting with M: 5!=120.5. Words starting with R: alphabetical order is RA..., RE..., REM....6. REMAST is the first word starting with "REMAS".	Rank: 521