

1) $x^2+x^2+25x+25=0$	9) $\{ -1+2i, 2 \}$	13) $\begin{array}{c c c} + & - & i \\ \hline 1 & 1 & 2 \end{array}$
2) $x^3-3x^2+2x-6=0$	10) $\{ \pm i\sqrt{5}, \frac{1}{2} \}$	14) $\begin{array}{c c c} + & - & i \\ \hline 2 & 0 & 2 \\ \hline 0 & 0 & 4 \end{array}$
3) $x^3+4x^2+6x+4=0$	11) $\{ 3\pm i, \pm\sqrt{10} \}$	
4) $x^3-5x^2+17x-13=0$	12) $\{ -1\pm i, -1, 3 \}$	
5) $-2i$	21) $x^4-2x^2+6x^2-8x+8=0$	
6) $1+i$	22) $x^4-6x^2+5x^2-18x+10=0$	
7) $1+2i$	23) $-1+i \rightarrow R=0$	
8) $-i\sqrt{2}$	24) $-1-i \rightarrow R=2i$	
		24) $2-i \rightarrow R=0$
		24) $2+i \rightarrow R=10i$

15) $\begin{array}{c c c} + & - & i \\ \hline 0 & 2 & 2 \\ \hline 0 & 0 & 4 \end{array}$	16) $\begin{array}{c c c} + & - & i \\ \hline 4 & 0 & 0 \\ \hline 2 & 0 & 2 \\ \hline 0 & 0 & 4 \end{array}$	17) $\begin{array}{c c c} + & - & i \\ \hline 1 & 2 & 2 \\ \hline 1 & 0 & 4 \end{array}$	18) $\begin{array}{c c c} + & - & i \\ \hline 3 & 0 & 2 \\ \hline 1 & 0 & 4 \end{array}$	19) $\begin{array}{c c c} + & - & i \\ \hline 3 & 2 & 0 \\ \hline 3 & 2 & 0 \\ \hline 1 & 0 & 4 \end{array}$	20) $\begin{array}{c c c} + & - & i \\ \hline 1 & 3 & 2 \\ \hline 1 & 1 & 4 \end{array}$
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2) $3, i\sqrt{2}, -i\sqrt{2}$
 $x = i\sqrt{2}$
 $(x-3)(x-i\sqrt{2})(x+i\sqrt{2})=0$ $x = -1+i$
 $x+1-i=0$
 $(x-3)(x^2-i^2\sqrt{4})=0$
 $(x-3)(x^2+2)=0$ 3) $\{ -2, -1+i, -1-i \}$
 $(x+2)(x+1-i)(x+1+i)=0$
 $x^3-3x^2+2x-6=0$
 4) $1, 2-3i, 2+3i$
 $(x-1)(x-2+3i)(x-2-3i)=0$

10) $2x^3-x^2+10x-5=0$ $\{ i\sqrt{5}, -i\sqrt{5}, \frac{1}{2} \}$
 Conjugate imaginary root theorem

	2	-1	10	-5
$i\sqrt{5}$	$2i\sqrt{5}$	-10	$-i\sqrt{5}$	5
	$2x$	$-1+2i\sqrt{5}$	$-i\sqrt{5}$	0
$-i\sqrt{5}$	$-2i\sqrt{5}$	$i\sqrt{5}$		
	$2x$	-1		0

 $2x-1=0$
 $2x=1$
 $x=\frac{1}{2}$

10) $2x^3-x^2+10x-5=0$ $\{ i\sqrt{5}, -i\sqrt{5}, \frac{1}{2} \}$

	2	-1	10	-5
$i\sqrt{5}$	$2i\sqrt{5}$	-10	$-i\sqrt{5}$	5
	$2x$	$-1+2i\sqrt{5}$	$-i\sqrt{5}$	0
$-i\sqrt{5}$	$-2i\sqrt{5}$	$i\sqrt{5}$		
	$2x$	-1		0

 $2x-1=0$
 $x=\frac{1}{2}$

13) $x^4+3x^2-4=0$ 17) $x^5-x^3-x-2=0$
 $(-x)^4+3(-x)^2-4$ $- + + -$
 $+ + -$

+	-	i
1	1	2

+	-	i
1	2	2
1	0	4

21) $\{ 2i, -2i, 1-i, 1+i \}$
 $(x-2i)(x+2i)(x-1+i)(x-1-i)=0$
 $(x^2-4i^2)(x^2-x-xi-x+1+i-xi-x-i^2)=0$
 $(x^2+4)(x^2-2x+2)=0$
 $x^4-2x^3+2x^2+4x^2-8x+8=0$
 $x^4-2x^3+6x^2-8x+8=0$