COMPLEX NUMBERS

Equation	Discriminant	Roots		Sum of roots: $z_1 + z_2$	Product of roots: $z_1 z_2$
		z_1	z_2		
$z^2 + 9 = 0$					
$z^2 + 6z + 25 = 0$					
$z^2 - 2z + 5 = 0$					
$z^2 + 10z + 61 = 0$					
$4z^2 - 24z + 37 = 0$					
$3z^2 - 10z + 9 = 0$					
		$-2 + i$			
				2	10

Solutions

Equation	Discriminant	Roots		Sum of roots: $z_1 + z_2$	Product of roots: $z_1 z_2$
		z_1	z_2		
$z^2 + 9 = 0$	-36	$3i$	$-3i$	0	9
$z^2 + 6z + 25 = 0$	-64	$-3 + 4i$	$-3 - 4i$	-6	25
$z^2 - 2z + 5 = 0$	-16	$1 + 2i$	$1 - 2i$	2	5
$z^2 + 10z + 61 = 0$	-144	$-5 + 6i$	$-5 - 6i$	-10	61
$4z^2 - 24z + 37 = 0$	-16	$3 + \frac{1}{2}i$	$3 - \frac{1}{2}i$	6	$\frac{37}{4}$
$3z^2 - 10z + 9 = 0$	-8	$\frac{5}{3} + \frac{\sqrt{2}}{3}i$	$\frac{5}{3} - \frac{\sqrt{2}}{3}i$	$\frac{10}{3}$	3
$z^2 + 4z + 5 = 0$ or equivalent	-4	$-2 + i$	$-2 - i$	-4	5
$z^2 = 2z + 10 = 0$ or equivalent	-36	$1 + 3i$	$1 - 3i$	2	10