Unit 2 Theory of Quadratic Equations

1	If α, β are the roots of equation $3x^2 + 5x - 2 = 0$, then $\alpha + \beta$ is	$\frac{5}{3}$	✓$-\frac{5}{3}$	$\frac{3}{5}$	$-\frac{2}{3}$
2	If α, β are the roots of equation $7x^2 - x + 4 = 0$, then $\alpha\beta$ is	$\frac{7}{4}$	$-\frac{1}{7}$	✓$\frac{4}{7}$	$-\frac{4}{7}$
3	The roots of the equation $4x^2 - 5x + 2 = 0$ are	Irrational	✓Imaginary	Rational	None of these
4	The cube roots of -1 are	✓ $-1, -\omega, -\omega^2$	$-1, \omega, -\omega^2$	$-1, -\omega, \omega^2$	$1, -\omega, -\omega^2$
5	The sum of cube roots of unity is	✓0	1	-1	3
6	The product of cube roots of unity is	0	✓1	-1	3
7	If $b^2 - 4ac < 0$, then the roots of $ax^2 + bx + c = 0$ are	Irrational	Rational	✓Imaginary/ Unreal	None of these
8	If $b^2 - 4ac > 0$, but not a perfect square then the roots of $ax^2 + bx + c = 0$ are	✓Irrational	Rational	Imaginary	None of these
9	$\frac{1}{\alpha} + \frac{1}{\beta}$ is equal to	$\frac{1}{\alpha}$	$\frac{1}{\alpha} - \frac{1}{\beta}$	$\frac{\alpha - \beta}{\alpha\beta}$	✓$\frac{\alpha+\beta}{\alpha\beta}$
10	$\alpha^2 + \beta^2$ is equal to	$\alpha^2 - \beta^2$	$\frac{1}{\alpha^2} + \frac{1}{\beta^2}$	$\alpha + \beta$	✓$(\alpha + b)^2 - 2\alpha\beta$
11	The square roots of unity are	✓$1, -1$	$1, \omega$	$1, -\omega$	ω, ω^2
12	The roosts of equation $4x^2 - 4x + 1 = 0$ are	✓real, equal	real, unequal	imaginary	irrational
13	If α, β are roots of equation $px^2 + qx + r = 0$, then the sum of roots 2α and 2β is	$-\frac{q}{p}$	$\frac{r}{p}$	✓$-\frac{2q}{p}$	$-\frac{q}{2p}$
14	If α, β are roots of equation $x^2 - x - 1 = 0$, then the product of roots 2α and 2β is	-2	2	4	✓-4
15	The nature of the roots of equation is determined by	Sum of roots	Product of roots	Synthetic division	✓Discriminant
16	The discriminant of $ax^2 + bx + c = 0$ is	$-b^2 - 4ac$	$-b^2 + 4ac$	$b^2 + 4ac$	✓$b^2 - 4ac$