NAME:_____

1. 060820b, P.I. A2.A.21
Which equation has roots whose sum is 3 and whose product is -4?

[A] $x^2 + 3x - 4 = 0$ [B] $x^2 + 4x - 3 = 0$

[C] $x^2 - 4x + 3 = 0$ [D] $x^2 - 3x - 4 = 0$

2. 010919b, P.I. A2.A.21
Juan has been told to write a quadratic equation where the sum of the roots is equal to -3 and the product of the roots is equal to -9. Which equation meets these requirements?

[A] $x^2 + 3x + 9 = 0$ [B] $2x^2 + 6x - 18 = 0$

[C] $x^2 - 12x + 27 = 0$

[D] $(x + 3)(x + 9) = 0$

3. 010830b, P.I. A2.A.21
Write a quadratic equation such that the sum of its roots is -5 and the product of its roots is 6. What are the roots of this equation?

4. 060719b, P.I. A2.A.21
If $2 + i$ and $2 - i$ are the roots of the equation $x^2 - 4x + c = 0$, what is the value of c?

[A] 4 [B] -5 [C] 5 [D] -4

5. 060606b, P.I. A2.A.21
If the equation $x^2 - kx - 36 = 0$ has $x = 12$ as one root, what is the value of k?

[A] -3 [B] -9 [C] 9 [D] 3

6. 080217b, P.I. A2.A.20
If the sum of the roots of $x^2 + 3x - 5$ is added to the product of its roots, the result is

[A] -2 [B] -15 [C] 15 [D] -8

7. 080612b, P.I. A2.A.20
For which equation is the sum of the roots equal to the product of the roots?

[A] $x^2 + x + 1 = 0$ [B] $x^2 - 4x + 4 = 0$

[C] $x^2 + 3x - 6 = 0$ [D] $x^2 - 8x - 4 = 0$

[1] D

[2] B

[3] [4] $x^2 + 5x + 6 = 0$ or an equivalent equation and -3 and -2, and appropriate work is shown, such as using the sum and product formulas or factoring the equation.
[3] Appropriate work is shown, but one computational or factoring error is made.
or [3] The expression $x^2 + 5x + 6 = 0$ is written and -3 and -2, and appropriate work is shown.
[2] Appropriate work is shown, but two or more computational or factoring errors are made.
or [2] Appropriate work is shown, but one conceptual error is made.
or [2] A correct quadratic equation is written, and appropriate work is shown, but the roots are not found.
or [2] Appropriate work is shown to find -3 and -2, but no quadratic equation is written.
[1] Appropriate work is shown, but one conceptual error and one computational or factoring error are made.
or [1] $x^2 + 5x + 6 = 0$ or an equivalent equation and -3 and -2, but no work is shown.
[0] A correct quadratic equation or -3 and -2, but no work is shown.
or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

[4] C

[5] C

[6] D

[7] B