

M\$5 Classwork 4

- For which equation does the sum of the roots equal 3 and the product of the roots equal 4.5?
(1) $x^2 + 3x - 9 = 0$ (3) $2x^2 + 6x + 9 = 0$
(2) $x^2 - 3x - 9 = 0$ (4) $2x^2 - 6x + 9 = 0$
- For the solution set $\left\{\frac{2}{5} \pm \frac{\sqrt{3}}{5}\right\}$, write a quadratic equation with integer coefficients.
- When the sum of $4 + 6i$ and $6 - 8i$ is graphed, in which quadrant does it lie?
(1) I (3) III
(2) II (4) IV
- The roots of the equation $ax^2 + 4x - 2 = 0$ are real, rational, and equal when a has a value of
(1) 1 (3) 3
(2) 2 (4) 4
- In the equation $x^2 - 7x + 2 = 0$, the sum of the roots exceeds the product of the roots by
(1) 9 (3) -9
(2) 5 (4) -5
- Which equation has rational roots?
(1) $x^2 + 8x - 8 = 0$ (3) $2x^2 + 4x + 5 = 0$
(2) $x^2 + 8x + 9 = 0$ (4) $3x^2 + 8x + 4 = 0$
- Impedance measures the opposition of an electrical circuit to the flow of electricity. The total impedance in a particular circuit is given by the formula $Z_T = \frac{Z_1 Z_2}{Z_1 + Z_2}$. What is the total impedance of a circuit, Z_T , if $Z_1 = 1 + 2i$ and $Z_2 = 1 - 2i$?
(1) 0 (3) $\frac{5}{2}$
(2) $-\frac{3}{2}$ (4) 1
- In the equation $ax^2 + bx + c = 0$, a , b , and c are integers. If $\frac{1}{3} - \frac{2}{3}i$ is a root of this equation, find the values of a , b , and c .
- For what positive value of k is the graph of $y = x^2 - 2kx + 16$ tangent to the x -axis?

