

LESSON 61 Review Quiz

Take the quiz and record your score on your grading sheet. You may use a calculator unless otherwise specified. After the quiz, make sure you review what you missed.

1. Which number is NOT rational?

A) 0.5 B) 0.333...
C) $\sqrt{7}$ D) $\sqrt{9}$

2. $\sqrt{-1} + \sqrt{-4} + \sqrt{-9}$

Simplify the expression above. Write your answer in the form $a + bi$.

3. $(1 + i)(4 - 3i) + 2i^5$

Simplify the expression above. Write your answer in the form $a + bi$.

4. $x^2 - 4x + m = (x + n)^2$

Given the equation above, what is the value of $m + n$?

5. $2x^2 - 7x - 4 = 0$

What is the positive solution of the equation above?

6. $x^2 + 2x + 6 = 0$

If $a + bi$ and $a - bi$ are two solutions to the equation above, what is the value of $a^2 + b^2$?

7. Which equation has no real solutions?

A) $x^2 + 2x + 1 = 0$
B) $x^2 + 2x - 1 = 0$
C) $x^2 + 2x + 2 = 0$
D) $x^2 + 2x - 2 = 0$

8. $x^2 + 7x + 5 = 0$

Which statement is true about the solutions of the equation above? Select all that apply.

A) The sum of the solutions is 7.
B) The sum of the solutions is -7.
C) The product of the solutions is 5.
D) The product of the solutions is -5.

9. $x^2 + bx + c = 0$

If the equation above has two solutions -3 and 5, what is the value of $b - c$?

10. The hypotenuse of a right triangle is 2 cm longer than one leg and 4 cm longer than the other leg. What is the perimeter of the triangle?