Name _____   **Date** _____

8 Algebra CC – Spiral Set B

Part I. Multiple Choice. Directions: Place the answers to the questions in the boxes below.

1.	2.	3.	4.	5.	6.	7.

1. Solve for x: $\frac{2}{7}(x+9) = x - 11$

     (1) 0   (2) -5   (3) 19   (4) 22

2. Which expression is equivalent to $(x + 1)(2x - 4) - 3x + 5$?

     (1) $2x^2 - 5x + 1$ (2) $2x^2 + 6x + 20$

     (3) $2x^2 - 5x - 9$ (4) $2x^2 - x + 1$

3. Which value of x satisfies the equation $\frac{2}{3}\left(x + \frac{5}{8}\right) = 0$?

     (1) 0   (2) -0.625

     (3) 1.6   (4) there is no value of x that will satisfy the equation

4. A surfer calculates the intensity of a wave with the formula **n = 2bq – r²**.
    Represent **b** in terms of **q**, **r** and **n**?

     (1) $n - r^2 - 2q$ (2) $b - n$

     (3) $\dfrac{n + r^2}{2q}$ (4) $\dfrac{n}{2} + \dfrac{r^2}{q}$

5. Represent the product of $x + 5$ and $x^2 - 3x + 5$ as a simplified polynomial expression.

     (1) $x^3 + 2x^2 - 10x + 25$ (2) $x^2 - 2x + 10$

     (3) $x^3 - 2x^2 + 10x + 25$ (4) $x^3 - 15x + 5$

6. Which of these expressions represents an irrational number?

     (1) $\left(\sqrt{2}\right)^2$ (2) $\sqrt{8} - 2\sqrt{2}$

     (3) $-\sqrt[3]{216}$ (4) $\left(\sqrt{9}\right)\left(\sqrt{3}\right)$

7. The equations pictured below are equivalent. Which property justifies the equivalence?

    (1) Commutative Property of Multiplication

$$-\frac{4}{3}(x-6)=8$$

$$x-6=8\bullet-\frac{3}{4}$$

    (2) Distributive Property

    (3) Identity Property of Multiplication

    (4) Inverse Property of Multiplication

Part II. Extended Response. Show all necessary work.

8. The formula **P = 2l + 2w** is used to find the perimeter of a rectangle.

    A. Is **P = 2(l + w)** an equivalent formula? Justify your response.

    B. Solve the formula **P = 2l + 2w** for **w**.

    C. Using your formula from part B, calculate the width of a rectangle with a perimeter of 17 meters and a length of 6 meters. *Check* your answer with **P = 2l + 2w**.

9. Determine the solution set to the equation: $\dfrac{x+3}{x+3}=1$

    Are there any values of x that should be excluded? Explain.