Solving Linear equations and Linear inequalities

1. If $5x+9=3x+5$ for all values of x, what is the value of $x-3$? *(no calculator)*

A) -7
B) -5
C) -4
D) -2

2. If $3x-4=-4x+10$, what is the value of $x+5$? *(no calculator)*

A) 2
B) 4
C) 7
D) 10

3. $x-\frac{44}{15}=\frac{2}{3}-\frac{4}{5}x$

What is the value of x in the equation above? *(no calculator)*

A) -7
B) -2
C) 2
D) 4

4. $24x+18=6(4x+a)$

In the equation above, a is a constant. For what value of a does the equation have an infinite number of solutions? *(no calculator)*

A) 3
B) 4
C) 6
D) 18

5. $x-4<3x+4$

Which of the following is a solution to the inequality above? *(no calculator)*

A) -6
B) -5
C) -4
D) -3

6. Which of the following numbers is NOT a solution of the inequality $5x-3\geq 7x-5$? *(no calculator)*

A) 2
B) 1
C) 0
D) -1

7. If $5x-4\geq 1$, what is the least possible value of $5x-4$? *(no calculator)*

A) -5
B) -4
C) 0
D) 1

8. $3x+7<3x+5$

Which of the following best describes the solutions to the inequality shown above? *(no calculator)*

A) All real numbers
B) No Solution
C) $x>\frac{5}{7}$
D) $x<\frac{7}{5}$

9. If $36\leq 12x-4$, which inequality represents the possible range of $1-3x$? *(no calculator)*

A) $1-3x\geq 9$
B) $1-3x\geq -9$
C) $1-3x\leq -9$
D) $1-3x\leq 9$

10. Which of the following is a solution of the inequality below? *(no calculator)*

$5x+13>3x+7$

A) -5
B) -4
C) -3
D) -2