Math 88 Name: _____

3.4 Homework

Complete the following tasks on <u>separate paper</u> and staple this page to the top. In order to earn full credit, your problem-solving process must be clearly communicated and your answers must be clearly marked.

1. Determine whether or not $x = 6$ is a solution to the equation $2(x + 3) - 4 = 14$. *Recall that if a value is a **solution to an equation**, it means that when that value is "plugged into" the equation as the value of the variable, the result is a true equation.*

For the remaining tasks, determine which of the values of the variable listed are solutions to the equation given. Before you begin, are there any values you can eliminate as possible solutions without doing any calculations? If so, briefly describe how you know. Then verify your answer using calculations.

2. Equation: $6y + 2(y - 4) = 56$. Possible solutions: $y = 9,\ y = -2,\ y = 8$

3. Equation: $35t + 12t + 9 = 10$. Possible solutions: $t = -1,\ t = \frac{1}{47},\ t = 0$

4. Equation: $\frac{4x+5}{6x-1} = \frac{7}{2}$. Possible solutions: $x = -10,\ x = 0,\ x = {}^{1}/_{2}$

5. Equation: $3m^2 - m = 10m + 4$. Possible solutions: $m = -\frac{1}{3},\ m = 0,\ m = 4$

6. Equation: $-\frac{b}{28} + 2 = 1$. Possible solutions: $b = -28,\ b = 1,\ b = 28$

7. Equation: $\sqrt{2x - 2} = 5 - x$. Possible solutions: $x = -3,\ x = 9,\ x = 19$

8. Equation: $4c = 2(2c + 3) - 6$. Possible solutions: $c = -5,\ c = 0,\ c = -\frac{1}{2}$

9. Equation: $2^{z-2} = 16$. Possible solutions: $z = 10,\ z = 4,\ z = 6$

10. Equation: $n + 4 = n - 6$. Possible solutions: $n = -5,\ n = 2,\ n = 15$