1. [10 points] Solve the following equation: \( 4 - x = 4x + 29 \)
Add \( x \) to both sides to get \( 4 = 5x + 29 \).
Subtract 29 from both sides to get \( -25 = 5x \).
Divide both sides by 5 to get \( -5 = x \).

2. [10 points] There were 238 tickets sold to watch the ISU concentric basket weaving tournament. Members of the ISU concentric basket weaving club paid $1.75 for their tickets and non-members paid $2.25 for their tickets. If a total amount of money collected was $503.50, how many of each type of ticket were sold? (Hint: You may need \( 238 \cdot 2.25 = 535.5 \) or \( 238 \cdot 1.75 = 416.5 \))

Let \( A \) be the number of concentric basket weaving club member tickets sold.
Let \( B \) be the number of non-member tickets sold.
Then \( A + B = 238 \) and \( (1.75)A + (2.25)B = 503.50 \).
Solving the first equation for \( B \) we get \( B = 238 - A \) Substituting into the second equation we have \( (1.75)A + (2.25)(238 - A) = 503.5 \).
Simplifying we have \( (1.75)A + 535.50 - (2.25)A = 503.50 \Rightarrow (-.5)A = -32 \Rightarrow A = 64 \).
Since \( A + B = 238 \) this means \( B = 174 \).
Therefore 64 member tickets were sold and 174 non-member tickets were sold.

We could have solved for \( A \) instead and gotten \( A = 238 - B \) and then followed a similar procedure: \( (1.75)(238 - B) + (2.25)B = 503.50 \Rightarrow 416.50 - (1.75)B + (2.25)B = 503.50 \Rightarrow (-.5)B = -87 \Rightarrow B = 174 \).