**Question 1:**   
  
**Step 1:**

“The problem: Convert meters to feet. Have the user enter then number of meters and then have the program convert this to feet and print the number of feet, when 1 meter = 3.28084 feet.”

**Step 2:**

(m \* n = f) When m= # in meters, n= constant (3.28084), f = total # in feet

1 \* 3.28084 = 3.28084 feet

2 \* 3.28084 = 6.56168 feet

3 \* 3.28084 = 9.84252 feet

4 \* 3.28084 = 13.12336 feet

5 \* 3.28084 = 16.4042 feet

Etc…

**Step 3:**

Start

Enter Number in Meters

Convert Meters to Feet to five decimal places

(m \* n = f)

Print Number in feet

End

**Step 4:**

Int: m= # in meters,

Float: n= constant (3.28084),

f = total # in feet

**Step 5:**

Python Code

A screenshot of a computer

Description automatically generated

**Step 6:**

Test

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Description automatically generated

**Question 2:**

**Step 1:**

Calculate the area of a rectangle home’s lot in square feet. when L=length, W= width, Total=#in Square feet

**Step 2:**

1.0ft \* 1.0 ft = 1.0 Square Foot

1.0ft \* 2.0ft = 2.0 Square Feet

2.0ft \* 3.5ft = 7.0 Square Feet

9.0ft \* 3.0ft = 27.0 Square Feet

10.0ft \* 10.0ft = 100.0 square Feet

**Step 3:**

User enters home lot’s Length in feet.

User enters home lot's Width in feet.

Multiply the Length times Width.

Print out “The Home’s Lot in Square feet is: “, and the number to 1 decimal places.

**Step 4:**

Float: L

Float: W

Total = L \* W

**Step 5:**

Python Code

**A screenshot of a computer

Description automatically generated**

**Step 6:**

Test

A screenshot of a computer

Description automatically generated

**Part 2:**

* Binary Number – 01010101, Decimal – 0\*2^7 + 1\*2^6 + 0\*2^5 + 1\*2^4 + 0\*2^3 + 1\*2^2 + 0\*2^1 + 1\*2^0=85 , Hex – 0101=5 + 0101=5 so Hex =55 , ASCII Character – “U”
* Hex – 3E, Binary Number – 3= 0011 E=1110 so 00111110, Decimal Number – 62 , ASCII

Character – “>”

* Decimal Number - 78, Binary Number – 4=0100 E=1110 so 01001110 , Hex – 4E, ASCII

Character – “N”

|  |  |
| --- | --- |
| **Hex** | **Binary** |
| 0 | 0000 |
| 1 | 0001 |
| 2 | 0010 |
| 3 | 0011 |
| 4 | 0100 |
| 5 | 0101 |
| 6 | 0110 |
| 7 | 0111 |
| 8 | 1000 |
| 9 | 1001 |
| A | 1010 |
| B | 1011 |
| C | 1100 |
| D | 1101 |
| E | 1110 |
| F | 1111 |

