Inclass Activity 3.6

1. (3 pt) Suki wants to cut a 96 inch wire into two pieces so that the longer piece is 3 times the length of the shorter piece. What is the length of each piece?

Legend: Let \( x = \) shorter piece

\[ 3x = \] longer piece

Picture:

\[ \frac{x}{3x} \]

Formula: Sum of Parts = Whole

Equation:

\[ x + 3x = 96 \]

\[ 4x = 96 \]

\[ x = 24 \]

Sentence: The short piece is 24 in. and the long piece is 72 in.

2. (3pt) In a right triangle, the measure of the middle angle is 18° more than the measure of the smallest angle. What are the measures of these two angles?

Legend: Let \( x = \) small angle

\[ x + 18 = \text{middle angle} \]

Equation:

\[ x + x + 18 = 90 \]

\[ 2x + 18 = 90 \]

\[ 2x = 72 \]

\[ x = 36 \]

\[ x + 18 = 36 + 18 \]

\[ = 54 \]

Sentence: Small angle is 36°, middle angle is 54°.
3. (3 pt) After two tests, Carol has a total score of 170 points. The score on her first test was 8 points higher than the score on her second test. How many points did she receive on each test?

Legend: Let $x = 2^{nd} \text{ test}$
$x + 8 = 1^{st} \text{ test}$

Picture: $x + [x + 8] = \text{Total}$

Formula: $\text{Sum of Parts} = \text{Whole}$

Equation:

\begin{align*}
x + x + 8 &= 170 \\
2x + 8 &= 170 \\
2x &= 162 \\
x &= 81
\end{align*}

Sentence:

$1^{st} \text{ test is 89}$
$2^{nd} \text{ test is 81}$

4. (3 pt) A rectangle garden has a perimeter of 520 feet. If the width is 82 feet shorter than the length, what are the dimensions of the garden?

Legend: Let $x = \text{length}$
$x-82 = \text{width}$

Picture: $P = 520$ $x$

Formula: $P = 2l + 2w$

Equation:

\begin{align*}
520 &= 2x + 2(x-82) \\
520 &= 2x + 2x - 164 \\
684 &= 4x \\
x &= 171 \\
x - 82 &= 171 - 82 \\
&= 89
\end{align*}

Sentence:

The length is 171 ft,
\& width is 89 ft.