

# Experiment ‘2\_6\_convert’ Results

December 18, 2025

**Experiment outcome:** SUCCESS

**Bad responses:** 0

**Responses containing assume :** 0

**Resolution attempts:** 1

**Hard fails (resolution):** 0

**Soft fails (resolution):** 0

**Verification attempts:** 1

## Problem Specification

**Problem name:** 2\_6\_convert

**Natural language statement:** Write a method that takes a measurement in meters and then converts it to miles, feet, and inches.

**Method signature:** convert(x: real) returns (miles: real, feet: real, inches: real)

### Ensures

- $x / 0.000621371 == \text{miles}$
- $x / 3.28084 == \text{feet}$
- $x / 39.3701 == \text{inches}$

## GenAI interactions

Below you will find all interactions between the ‘user’ (program) and the ‘assistant’ (OpenAI).

### Program → GenAI

You are given the following task to perform in Dafny:

Write a method that takes a measurement in meters and then converts it to miles, feet,  
↪ and inches.

The signature should be:

```
method convert(x: real) returns (miles: real, feet: real, inches: real)
```

The method should respect the following contract:

```
ensures x / 0.000621371 == miles, ensures x / 3.28084 == feet, ensures x / 39.3701 ==  
↪ inches
```

Produce and show only the Dafny body of this method, including the curly braces that  
↪ surround it. Do not show the signature nor contract. You must not use ‘assume’  
↪ anywhere in your code.

### GenAI → Program

**System fingerprint:**

**ID:** chatcmpl-Co4PRfsmbq1BnJSanMHjkeqduG3qs

**Model:** gpt-5.1-chat-latest

**Created at:** 1766049385

**Finish reason:** stop

**Usage:** 322 tokens in, and 121 tokens out

```
{  
    miles := x / 0.000621371;  
    feet := x / 3.28084;  
    inches := x / 39.3701;  
}
```

## Final Program

```
method convert(x: real) returns (miles: real, feet: real, inches: real)  
    ensures x / 0.000621371 == miles  
    ensures x / 3.28084 == feet  
    ensures x / 39.3701 == inches  
{  
    miles := x / 0.000621371;  
    feet := x / 3.28084;  
    inches := x / 39.3701;  
}
```

## Total Token Usage

**Input tokens:** 322

**Output tokens:** 121

**Reasoning tokens:** 64

**Sum of ‘total tokens’:** 443

## Experiment Timings

**Overall Experiment** started at 1766049387283, ended at 1766049392751, lasting 5468ms (5.47 seconds)

**Iteration #1** started at 1766049387283, ended at 1766049392750, lasting 5467ms (5.47 seconds)