ENGR–UH 1000 | Lab 0 Report

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1 Problem Identification and Statement.

Computing the distance between two given points in a Cartesian plane, given the Cartesian coordinates of the two points.

2 Gathering of Information and Input/Output Description.

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5 Software Testing and Verification.

% Pandoc math demos

$a^2 + b^2 = c^2$

$v(t) = v_0 + \frac{1}{2}at^2$

$\gamma = \frac{1}{\sqrt{1-v^2/c^2}}$

$\exists x \forall y (Rxy \equiv Ryx)$

$p \wedge q \vDash p$

$\Box \diamond p \equiv \diamond p$

$\int_0^1 x dx = \left[\frac{1}{2}x^2\right]_0^1 = \frac{1}{2}$

$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!} = \lim_{n \to \infty} (1 + x/n)^n$

```
/*-----------------------------------------------*/
/* Name: Pi, Student Number: N13394469 */
/* Date: Sep 8, 2020. */
/* Program: distance.cpp */
/* Description: This program computes the distance */
/* between two points. */
/*-----------------------------------------------*/
#include <iostream>
#include <cmath>
using namespace std;
```

```
11 int main()
12 {
13 /* Declare and initialize the variables */
14 double x1 = -1, y1 = -3, x2 = 4, y2 = 6;
15 double length1, length2, distance;
16
17 /* Compute the sides of a right triangle */
18 length1 = x2 - x1;
19 length2 = y2 - y1;
20
21 /* Compute the distance between the two points. */
22 distance = sqrt(length1*length1 + length2*length2);
23
24 /* Print the distance */
25 cout << "The distance between the two points is " << distance << endl;
26  return (0);
27 }
28 /*--------------------------End---------------------*/
```