1E3 Practical 2
27 January 2016

Objectives: To get used to writing C++ programs.

Task#1:
Marks: 3 marks.
Summary: Write a program to calculate the price per square inch of a pizza.
Details: As a first step in working out what family combination of pizzas is best value (for example two 16-inch or five 7-inch pizzas), write a program that reads in (i.e. takes input from the user) a pizza diameter and the price of that pizza and outputs the area of that pizza (in square inches) and the price per square inch. For example,

```
Input diameter: 12
Input price: 12.99
The area is 113.1
The price per square inch is 11.5  cents
```

Notes/Hints/Additional Details:

- Check out **twonums.cpp** and **euros.cpp** on the webpage under lecture topic 3 to get you started.
- You may want to use variables called diam, price, radius, area, ppsi (for price per square inch) and declare them as variables of type double.
- Run your program multiple times to test it on a range of inputs, checking the answers yourself!

Task#2:
Marks: 2 marks.
Summary: Write a program to convert centimetres to yards, feet, and inches.
Details: Your program should prompt the user to input a length expressed in centimetres, and should convert the length to inches (to the nearest inch), and output the length expressed in yards, feet and inches, in that order.

Notes/Hints/Additional Details:

- Note that 1 inch is 2.54 centimetres, 1 foot is 12 inches and 3 feet makes a yard. So for example 254 centimetres is 100 inches, or 2 yards, 2 feet and 4 inches.
- You might find it useful to first review **change.cpp** under lecture topic 3. And once you have computed the total number of inches (as an integer), extract the number of yards, then the number of feet left, then how many inches are left over.
- Remember that by assigning a decimal number to an integer variable, you effectively drop the decimal part. For example:

```
int i;
double x = 3.1415;
i = x; // puts the integer part of the value of x into the variable i;
                    //drops the decimal part
cout << i; // prints the value 3.
```

- Run your program multiple times to test it on a range of inputs, checking the answers yourself!