

Solution to Practice Problems #2:

```

/*****
SOLUTION TO:  Practice problems for:
  -- Using Pointers to Send Information Back From a Function.
Problems designed by David Mutchler, July 2010.  Solution by David Mutchler.
*****/

#include <stdio.h>
#include <stdlib.h>
#include <math.h>

void sineAndCosine(double x, double* pSine, double* pCosine);

int main() {
  /*****
    *** TODO 4 ***
    Write code here that tests
      sineAndCosine (which you write below),
    as follows:  Your code here should call  sineAndCosine  with
    appropriate arguments and print appropriate values after the function
    call to test that  sineAndCosine  works correctly.
  *****/

  double sine;
  double cosine;

  sineAndCosine(3.14159, &sine, &cosine);
  printf("%f %f\n", sine, cosine); // Should print 0.000003 and -1.000000

  sineAndCosine(1.0, &sine, &cosine);
  printf("%f %f\n", sine, cosine); // Should print 0.841471 and 0.540302

  return EXIT_SUCCESS;
}

/*****
    *** TODO 3 ***
    Write a function called
      sineAndCosine
    that takes a floating point number X and uses pointer parameters
    to send back two numbers to the caller:  the sine of X and the cosine of X.
  *****/
void sineAndCosine(double x, double* pSine, double* pCosine) {
  *pSine = sin(x);
  *pCosine = cos(x);
}

```