

Midterm

This is an open book exam. You are to turn in this exam at 8:30 PM.

Name: _____

Problem 1: 2 points.

List 4 reserved words in Pascal.

Problem 2: 4 points.

Which of the following are valid integers in Pascal? Circle your choices.

-5,000 0016 1.0 TEN

Problem 3: 4 points.

Which of the following are valid reals in Pascal? Circle your choices.

17E-5 0.314E2 3.14E1 0.3

Problem 4: 4 points.

Which of the following are valid characters in Pascal? Circle your choices.

A B '0' ""

Problem 5: 36 points.

For each of the following twelve expressions, state whether the expression is valid or invalid and, if valid, state the type and value of the expression.

7 MOD 4 + 3

5.0 + TRUE

3.0 + 2000/2000

(8 < 9) => (8 < 10)

3.0 + 2000.0/2000

'0' + 1

'3' DIV '2'

8 < 9 < (9 < 10)

-5*-3

TRUE <> FALSE

8 < 9 AND 9 < 10

8.0 * (1.0 DIV 8)

Problem 6: 10 points.

Assume that I and J have been declared as integer variables, that X and Y have been declared as real variables, and C has been declared as a character variable. What are the values of these five variables after the following READ and READLN statements:

```
READLN(INPUT, J, X);
READ(INPUT, C, Y, I);
```

have been used to read the following input characters:

```
60 15.0 30.0
60.0 25
6 0 40
```

(Assume the character '6' is the first character in each line.)

*Write your solutions to the next three problems on your own paper.
Be sure to write your name on your solution!*

Problem 7: 10 points.

Suppose the REAL variable TEMP contains a body temperature reading. Write a few Pascal statements that print the line:

```
You're OK.
```

if TEMP is less than or equal to 99 but print a line similar to:

```
Your temperature is 101.3 degrees.
```

if TEMP is greater than 99. In this case, the value of TEMP was 101.34. (In other words, your Pascal code should display only one digit after the decimal point.)

Problem 8: 15 points.

Write a WHILE loop that reads the next 50 integers from the standard input file and sets the integer variable NumZero to the number of those integers that are equal to zero.

Problem 9: 15 points.

Write a procedure called PrintNNtimes that has one argument, an integer N, and prints the value N to standard output N times. For example, the call

```
PrintNNtimes(4)
```

should print the number 4 four times.