

Write your answers on the answer sheet on the blank corresponding to the question number.

Write in BASIC each of the expressions in #1 – 6

1. $\sqrt{b^2 - 4ac}$

2. $\frac{a+b}{c+d}$

3. $2x^2 - 5x + 3$

4. $a^2 + b^2$

5. $\frac{y_2 - y_1}{x_2 - x_1}$

6. $\frac{xy}{wz}$

Given that A = 100, B = 2, C = 5, and N = 2, evaluate each of the expressions in #7 - 9.

7. $A^{0.5} / B * C$

8. $A * N - C * B^N$

9. $C * B - B / N$

Given that A = 64, B = 8, C = -5, and N = 2, evaluate each of the expressions in #10 – 12.

10. $A^{0.5} - C + 20$

11. $N * A + A / B * C$

12. $C^N + 1 + C^{(N+1)}$

What is the printout of the following program segment given the following as input?

13. 375

14. 210

15. 660

```
CONST Phrase1 AS STRING = " Inexpensive"
```

```
CONST Phrase2 AS STRING = " Average"
```

```
CONST Phrase3 AS STRING = " Expensive"
```

```
CONST Phrase4 AS STRING = "."
```

```
DIM Cost AS DECIMAL
```

```
DIM Quote1 AS STRING = "That's "
```

```
DIM Quote2 AS STRING
```

```
Cost = INPUTBOX( "Price of Camera?")
```

```
IF Cost >= 500 THEN
```

```
    Quote2 = Phrase3
```

```
ELSEIF Cost >= 250 THEN
```

```
    Quote2 = Phrase2
```

```
ELSE
```

```
    Quote2 = Phrase1
```

```
END IF
```

```
PRINT Quote1 & Quote2 & Phrase4
```

```
END
```

What is printed by the following program segment given the following as input?

16. 50, 20

17. 30, 80

18. 25, 50

```
T = 0
```

```
INPUT M, N
```

```
DO WHILE M < N
```

```
    M = M + 10
```

```
    T = T + 1
```

```
LOOP
```

```
PRINT T; " "; M
```

What is printed by the following program segment given the following as input?

19. 15.0 20. 8.0

```
CONST Fee AS DECIMAL = 25
CONST Price AS DECIMAL = 0.30
DIM Cost, Minutes AS DECIMAL
Minutes = INPUTBOX("Input the number of minutes: ")
IF Minutes >= 10 THEN
    Cost = Fee + (Minutes - 10) * Price
ELSE
    Cost = Fee
END IF
PRINT "Cost of Call: $ " & Cost
END
```

21 - 23. What is printed by the following program segment?

```
DIM N, J AS INTEGER
DIM Sum AS INTEGER
Sum = 0
FOR N = 1 TO 3
    FOR J = 1 TO N
        Sum = Sum + J
    NEXT J
PRINT Sum
NEXT N
```

24. What is the value of C when the following program segment ends?
(Use 20, 20, 30, 21, 19, 25, 18, 32, 999 as input)

```
DIM C AS INTEGER = 0
DIM P, D AS INTEGER
P = INPUTBOX("Enter a number: ")
D = INPUTBOX("Enter a number: ")
DO
    IF D > P THEN
        C = C + 1
    ENDIF
    P = D
    D = INPUTBOX("Enter a number: ")
LOOP UNTIL D = 999
```

25. What is the value of T when the following program segment ends? (Use 10, 5, 30, 4, 5, 3, 999 as input)

```
DIM H AS INTEGER
DIM T AS INTEGER = 0
H = INPUTBOX("Enter a number: ")
DO WHILE H <> 999
    T = T + H
    H = INPUTBOX("Enter a number: ")
LOOP
```

26. What is the value of M when the following program segment ends? (Use 14, 6, 18, 7 as input)

```
DIM X, M, K AS INTEGER
M = INPUTBOX("Enter a number: ")
FOR K = 1 TO 3
  X = INPUTBOX("Enter a number: ")
  IF X > M THEN
    M = X
  END IF
NEXT K
```

27. What is the value of BT printed by the following program segment? (Use 1200.00, 2000.00, 3000.00 as input)

```
CONST Z AS DECIMAL = 0.00
CONST AMT AS DECIMAL = 1500.00
CONST P AS DECIMAL = 0.02
DIM BN AS DECIMAL = 0
DIM BT AS DECIMAL = 0.00
DIM Count AS INTEGER
DIM S AS DECIMAL
FOR Count = 1 TO 3
  S = INPUTBOX("Enter an amount: ")
  IF S > AMT THEN
    BN = P * S
  ELSE
    BN = Z
  END IF
  BT = BT + BN
NEXT Count
```

28 - 30. What is printed by the following program segment?
(Use 1, 1, 2, 1, 2, 1, 1, 2, 2, 1, 2, 3, 3, 3, 3, 999 as input)

```
DIM C(1 TO 3) AS INTEGER = {0, 0, 0}
DIM X, J AS INTEGER
X = INPUTBOX("Enter a number: ")
DO WHILE X <> 999
  C(X) = C(X) + 1
  X = INPUTBOX("Enter a number: ")
LOOP
FOR J = 1 TO 3
  PRINT J, C(J)
NEXT J
```

31. What is printed by the following program segment? (Use 6, 3, 5, 8, 7, 9 as input)

```
DIM R, C AS INTEGER
DIM Q(2, 3) AS INTEGER
FOR R = 1 TO 2
  FOR C = 1 TO 3
    Q(R, C) = INPUTBOX("Enter a number: ")
  NEXT C
NEXT R
PRINT Q(2, 1)
```

32. What is printed by the following program? (Use 7, 3, 4 as input)

```
DIM Num1, Num2, Num3, Ans AS INTEGER
Num1 = INPUTBOX("Enter a number: ")
Num2 = INPUTBOX("Enter a number: ")
Num3 = INPUTBOX("Enter a number: ")
Ans = CALC(Num1, Num2, Num3)
PRINT Ans
END

FUNCTION CALC(X AS INTEGER, Y AS INTEGER, Z AS INTEGER) AS INTEGER
  DIM L AS INTEGER
  L = X
  IF Y < L THEN
    L = Y
  END IF
  IF Z < L THEN
    L = Z
  END IF
  RETURN L
END FUNCTION
```