What will be the output of the program?

```
#include<stdio.h>
#define MAX(a, b, c) (a>b ? a>c ? a : c: b>c ? b : c)
int main()
{
    int x;
    x = MAX(3+2, 2+7, 3+7);
    printf("%d", x);
    return 0;
}
```

a. 5
b. 9
c. 10
d. 3+7
Answer: c

Once preprocessing is over and the program is sent for the compilation the macros are removed from the expanded source code.
a. true
b. false
Answer: a

A preprocessor directive is a message from compiler to a linker.
a. true
b. false
Answer: b

```
#include<stdio.h>
#define PRINT(i) printf("%d,",i)

int main()
{
    int x=2, y=3, z=4;
    PRINT(x);
    PRINT(y);
    PRINT(z);
    return 0;
}
```

a. 2,3,4
b. 2,2,2
c. 3,3,3
d. 4,4,4
Answer: a

The preprocessor can trap simple errors like missing declarations, nested comments or mismatch of braces.
a. true
b. false

Answer: b

```
#include<stdio.h>
#define MESS junk
int main()
{
   printf("MESS");
   return 0;
}
```

a. junk
b. MESS
c. Error
d. Nothing will print
Answer: b

A header file contains macros, structure declaration and function prototypes.
a. true
b. false
Answer: a

In a macro call the control is passed to the macro.
a. true
b. false
Answer: b

```
#include<stdio.h>
#define MIN(x, y) (x<y)? x : y;
int main()
{
   int x=3, y=4, z;
   z = MIN(x+y/2, y-1);
   if(z > 0)
      printf("%d", z);
   return 0;
}
```

a. 3
b. 4
c. 0
d. nothing
Answer: a

```
#include<stdio.h>
#define MAX(a, b) (a > b ? a : b)

int main()
{
   int x;
   x = MAX(3+2, 2+7);
   printf("%d", x);
```

```
    return 0;
}
```
a. 5
b. 9
c. 8
d. 6
Answer: 9

```
#include<stdio.h>
#define FUN(arg) do
                {
                   if(arg)
                       printf("ASTIWZ...", "");
                 }while(--i)

int main()
{
    int i=2;
    FUN(i<3);
    return 0;
}
```
a. ASTIWZ...
   ASTIWZ...
   ASTIWZ
b. ASTIWZ... ASTIWZ...
c. Error: cannot use control instructions in macro
d. No output
Answer: b

Macros have a local scope.
a. true
b. false
Answer: b

Will the following program print the message infinite number of times?

```
#include<stdio.h>
#define INFINITELOOP while(1)
int main()
{
    INFINITELOOP
    printf("ASTIWZ");
    return 0;
}
```
a. yes
b. no
Answer: a

Will the program compile successfully?

```
#include<stdio.h>
int main()
{
    #ifdef NOTE
        int a;
        a=10;
    #else
        int a;
        a=20;
    #endif
    printf("%d", a);
    return 0;
}
```

a. yes
b. no
Answer: a

```
#include<stdio.h>
#define JOIN(s1, s2) printf("%s=%s %s=%s ", #s1, s1, #s2, s2);
int main()
{
    char *str1="Astiwz";
    char *str2="QUIZ";
    JOIN(str1, str2);
    return 0;
}
```

a.str1=ASTIWZ str2=QUIZ
b. str1=Astiwz str2=QUIZ
c. str1=Astiwz str2=ASTIWZ
d. Error: in macro substitution
Answer: b

```
#include<stdio.h>

int main()
{
    int i;
    #if A
        printf("Enter any number:");
        scanf("%d", &i);
    #elif B
        printf("The number is odd");
    return 0;
}
```

a. Error: unexpected end of file because there is no matching #endif
b. The number is odd
c. Garbage values

d. None of above
Answer: a

Point out the error in the program

```
#include<stdio.h>
#define SI(p, n, r) float si; si=p*n*r/100;
int main()
{
    float p=2500, r=3.5;
    int n=3;
    SI(p, n, r);
    SI(1500, 2, 2.5);
    return 0;
}
```

a. 26250.00 7500.00
b. Nothing will print
c. Error: Multiple declaration of si
d. Garbage values
Answer: c