

## Huawei Test 5

1

A man wants to sell his scooter. There are two offers, one at Rs. 12,000 cash and the other a credit of Rs. 12,880 to be paid after 8 months, money being at 18% per annum. Which is the better offer?

- A. Rs. 12,000 in cash  
 B. s. 12,880 at credit  
 C. Both are equally good  
 D. [NIL]

Explanation:

P.W. of Rs. 12,880 due 8 months hence = Rs.  $[(12880 \times 100) / (100 + (18 \times (8/12)))]$

= Rs  $[12880 \times 100] / 112$

= 11500

2

If Rs. 10 be allowed as true discount on a bill of Rs. 110 due at the end of a certain time, then the discount allowed on the same sum due at the end of double the time is:

- A. Rs. 20  
 B. Rs. 21.81  
 C. Rs. 22  
 D. Rs. 18.33

Explanation:

S.I. on Rs. (110 - 10) for a certain time = Rs. 10.

S.I. on Rs. 100 for double the time = Rs. 20.

T.D. on Rs. 120 = Rs. (120 - 100) = Rs. 20.

T.D. on Rs. 110 = Rs.  $[(20/120) \times 110] =$ Rs 18.33

**3**

In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?

- A.  $1/10$
- B.  $2/5$
- C.  $2/7$
- D.  $5/7$

Explanation:

$$P(\text{getting a prize}) = 10/(10+25) = 10/35 = 2/7$$

**4**

From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?

- A.  $1/15$
- B.  $25/57$
- C.  $35/256$
- D.  $1/221$

Explanation:

Let S be the sample space.

$$\text{Then, } n(S) = {}^{52}C_2 = (52 \cdot 51)/(2 \cdot 1) = 1326$$

Let E = event of getting 2 kings out of 4.

$$n(E) = {}^4C_2 = (4 \cdot 3)/(2 \cdot 1) = 6$$

$$P(E) = n(E) / n(S) = 6/1326 = 1/221$$

**5**

Two dice are tossed. The probability that the total score is a prime number is:

- A.  $1/6$
- B.  $5/12$
- C.  $1/2$
- D.  $7/9$

Explanation:

Clearly,  $n(S) = (6 \times 6) = 36$ .

Let  $E$  = Event that the sum is a prime number.

Then  $E = \{ (1, 1), (1, 2), (1, 4), (1, 6), (2, 1), (2, 3), (2, 5), (3, 2), (3, 4), (4, 1), (4, 3), (5, 2), (5, 6), (6, 1), (6, 5) \}$

$n(E) = 15$ .

$P(E) = n(E) / n(S) = 15/36 = 5/12$

**6**

One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card?

A.  $1/13$

B.  $3/13$

C.  $1/4$

D.  $9/52$

Explanation:

Clearly, there are 52 cards, out of which there are 12 face cards.

$P(\text{getting a face card}) = 12/52 = 3/13$

**7**

A bag contains 6 black and 8 white balls. One ball is drawn at random. What is the probability that the ball drawn is white?

A.  $3/4$

B.  $4/7$

C.  $1/8$

D.  $3/7$

Explanation:

Let number of balls =  $(6 + 8) = 14$ .

Number of white balls = 8.

$P(\text{drawing a white ball}) = 8/14 = 4/7$

**8**

. In a mixture 60 litres, the ratio of milk and water 2 : 1. If the this ratio is to be 1 : 2, then the quantity of water to be further added is:

- A. 20 litres
- B. 30 litres
- C. 40 litres
- D. 60 litres

Explanation:

Quantity of milk= $[60 \times \frac{2}{3}]$ liters

Quantity of water in it = (60- 40) litres = 20 litres.

New ratio = 1 : 2

Let quantity of water to be added further be x litres.

Then, milk : water = $\frac{40}{(20+x)}$

Now,  $\frac{40}{(20+x)} = \frac{1}{2}$

$20+x = 80$

$X=60$

**9**

If  $0.75 : x :: 5 : 8$ , then x is equal to:

- A. 1.12
- B. 1.2
- C. 1.25
- D. 1.30

Explanation:

$(x \times 5) = (0.75 \times 8) \Rightarrow x = \frac{6}{5} = 1.20$

**10**

$2056 \times 987 = ?$

- A. 1936372
- B. 2029272
- C. 1896172
- D. 1926172

Explanation:

$$2056 \times 987 = 2056 \times (1000 - 13)$$

$$= 2056 \times 1000 - 2056 \times 13$$

$$= 2056000 - 26728$$

$$= 2029272.$$

**11**

On multiplying a number by 7, the product is a number each of whose digits is 3. The smallest such number is:

- A. 47619
- B. 47719
- C. 48619
- D. 47649

Explanation:

By hit and trial, we find that

$$47619 \times 7 = 333333$$

**12**

A farmer travelled a distance of 61 km in 9 hours. He travelled partly on foot @ 4 km/hr and partly on bicycle @ 9 km/hr. The distance travelled on foot is:

- A. 14 km
- B. 15 km
- C. 16 km
- D. 17 km

Explanation:

Let the distance travelled on foot be  $x$  km.

Then, distance travelled on bicycle =  $(61 - x)$  km.

$$\text{So, } x/4 + (61-x)/9 = 9$$

$$\Rightarrow 9x + 4(61 - x) = 9 \times 36$$

$$\Rightarrow 5x = 80$$

$$\Rightarrow x = 16 \text{ km.}$$

### 13

A, B and C can complete a piece of work in 24, 6 and 12 days respectively. Working together, they will complete the same work in:

- ( ) A. 1/24 day
- ( ) B. 7/24 day
- ( ) C. 3 3/7 days
- ( ) D. 4 days

Explanation:

Formula: If A can do a piece of work in  $n$  days, then A's 1 day's work  $= 1/n$

$$(A + B + C)\text{'s 1 day's work} = [1/24 + 1/6 + 1/12] = 7/24$$

Formula: If A's 1 day's work  $= 1/n$ , then A can finish the work in  $n$  days

So, all the three together will complete the job in  $(24/7)\text{days} = 3\frac{3}{7}\text{days}$

### 14

It takes eight hours for a 600 km journey, if 120 km is done by train and the rest by car. It takes 20 minutes more, if 200 km is done by train and the rest by car. The ratio of the speed of the train to that of the cars is:

- ( ) A. 2 : 3
- ( ) B. 3 : 2
- ( ) C. 3 : 4
- ( ) D. 4 : 3

Explanation:

Let the speed of the train be  $x$  km/hr and that of the car be  $y$  km/hr.

$$\text{Then, } 120/x + 480/y = 8 \Rightarrow 1/x + 4/y = 1/15 \dots\dots(1)$$

$$\text{And, } 200/x + 400/y = 25/3 \Rightarrow 1/x + 2/y = 1/24 \dots\dots(2)$$

Solving (i) and (ii), we get:  $x = 60$  and  $y = 80$ .

Ratio of speeds =  $60 : 80 = 3 : 4$ .

**15**

Two number are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is:

- A. 27
- B. 33
- C. 49
- D. 55

Explanation:

Let the numbers be  $3x$  and  $5x$ .

Then,  $3x - 9/5x - 9 = 12/23$

$$\Rightarrow 23(3x - 9) = 12(5x - 9)$$

$$\Rightarrow 9x = 99$$

$$\Rightarrow x = 11.$$

The smaller number =  $(3 \times 11) = 33$ .

**16**

A and B together can do a piece of work in 30 days. A having worked for 16 days, B finishes the remaining work alone in 44 days. In how many days shall B finish the whole work alone?

- A. 30 days
- B. 40 days
- C. 60 days
- D. 70 days

Explanation:

Let A's 1 day's work =  $x$  and B's 1 day's work =  $y$ .

Then,  $x + y = 1/30$  and  $16x + 44y = 1$ .

Solving these two equations, we get:  $x = 1/60$  and  $y = 1/60$

B's 1 day's work =  $1/60$

Hence, B alone shall finish the whole work in 60 days

17

In a regular week, there are 5 working days and for each day, the working hours are 8. A man gets Rs. 2.40 per hour for regular work and Rs. 3.20 per hours for overtime. If he earns Rs. 432 in 4 weeks, then how many hours does he work for ?

- A. 160  
 B. 175  
 C. 180  
 D. 195

Explanation:

Suppose the man works overtime for  $x$  hours.

Now, working hours in 4 weeks =  $(5 \times 8 \times 4) = 160$ .

$$160 \times 2.40 + x \times 3.20 = 432$$

$$\Rightarrow 3.20x = 432 - 384 = 48$$

$$\Rightarrow x = 15.$$

Hence, total hours of work =  $(160 + 15) = 175$ .

18

ZA5, Y4B, XC6, W3D, \_\_\_\_\_

- A. E7V  
 B. V2E  
 C. VE5  
 D. VE7

Explanation:

There are three series to look for here. The first letters are alphabetical in reverse: Z, Y, X, W, V. The second letters are in alphabetical order, beginning with A. The number series is as follows: 5, 4, 6, 3, 7.

19

QPO, NML, KJI, \_\_\_\_\_, EDC

- A. HGF  
 B. CAB  
 C. JKL  
 D. GHI

Explanation: This series consists of letters in a reverse alphabetical order

## 20

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

Explanation: The macro #define SI(p, n, r) float si; si=p\*n\*r/100; contains the error. To remove this error, we have to modify this macro to

```
#define SI(p,n,r) p*n*r/100
```

## 21

Point out the error in the program

```
#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

Explanation:

The conditional macro #if must have an #endif. In this program there is no #endif statement written.

## 22

What will be the output of the program ?

```
#include<stdio.h>  
  
#include<string.h>  
  
int main()  
{  
  
char str1[20] = "Hello", str2[20] = " World";  
  
printf("%s\n", strcpy(str2, strcat(str1, str2)));  
  
return 0;  
  
}
```

- A. Hello
- B. World
- C. Hello World
- D. WorldHello

Explanation: Step 1: char str1[20] = "Hello", str2[20] = " World"; The variable str1 and str2 is declared as an array of characters and initialized with value "Hello" and " World" respectively.

Step 2: printf("%s\n", strcpy(str2, strcat(str1, str2)));

=> strcat(str1, str2) it appends the string str2 to str1. The result will be stored in str1.

Therefore str1 contains "Hello World".

=> strcpy(str2, "Hello World") it copies the "Hello World" to the variable str2.

Hence it prints "Hello World".

### 23

What will be the output of the program ?

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
int arr[5], i=0;
```

```
while(i<5)
```

```
arr[i]=++i;
```

```
for(i=0; i<5; i++)
```

```
printf("%d, ", arr[i]);
```

```
return 0;
```

```
}
```

A. 1, 2, 3, 4, 5,

B. Garbage value, 1, 2, 3, 4,

C. 0, 1, 2, 3, 4,

D. 2, 3, 4, 5, 6,

Explanation:

Since C is a compiler dependent language, it may give different outputs at different platforms. We have given the TurboC Compiler (Windows) output.

Please try the above programs in Windows (Turbo-C Compiler) and Linux (GCC Compiler), you will understand the difference better.

**24**

What will be the output of the program ?

```
#include<stdio.h>

int main()
{
int arr[1]={10};

printf("%d\n", 0[arr]);

return 0;

}
```

- A. 1
- B. 10
- C. 0
- D. 6

Explanation:

Step 1: `int arr[1]={10};` The variable `arr[1]` is declared as an integer array with size '2' and its first element is initialized to value '10'(means `arr[0]=10`)

Step 2: `printf("%d\n", 0[arr]);` It prints the first element value of the variable `arr`.

Hence the output of the program is 10.

**25**

Point out the error in the program?

```
struct emp
{
int ecode;
struct emp *e;
};
```

- A. Error: in structure declaration
- B. Linker Error
- C. No Error
- D. None of above

Explanation:

This type of declaration is called as self-referential structure. Here \*e is pointer to a struct emp.

**26**

Point out the error in the program?

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
struct a
```

```
{
```

```
category:5;
```

```
scheme:4;
```

```
};
```

```
printf("size=%d", sizeof(struct a));
```

```
return 0;
```

```
}
```

- A. Error: invalid structure member in printf
- B. Error: bit field type must be signed int or unsigned int
- C. No error
- D. None of above

**27**

Point out the error in the program?

```
struct emp
{
int ecode;

struct emp e;

};
```

- A. Error: in structure declaration
- B. Linker Error
- C. No Error
- D. None of above

Explanation:

The structure emp contains a member e of the same type.(i.e) struct emp. At this stage compiler does not know the size of sstructure.

**28**

Point out the error in the program?

```
#include<stdio.h>

int main()
{
struct emp
{
char name[20];

float sal;

};

struct emp e[10];

int i;

for(i=0; i<=9; i++)

scanf("%s %f", e[i].name, &e[i].sal);
```

```
return 0;
```

```
}
```

- A. Error: invalid structure member
- B. Error: Floating point formats not linked
- C. No error
- D. None of above

Explanation: At run time it will show an error then program will be terminated.

Sample output: Turbo C (Windwos)

```
c:\>myprogram
```

Sample

```
12.123
```

```
scanf : floating point formats not linked
```

```
Abnormal program termination
```

**29**

Point out the error in the program?

```
struct emp
```

```
{
```

```
int ecode;
```

```
struct emp e;
```

```
};
```

- A. Error: in structure declaration
- B. Linker Error
- C. No Error
- D. None of above

Explanation: The structure emp contains a member e of the same type.(i.e) struct emp. At this stage compiler does not know the size of ststructure

**30**

What will be the output of the program?

```
public class CommandArgsThree
{
public static void main(String [] args)
{
String [][] argCopy = new String[2][2];
int x;
argCopy[0] = args;
x = argCopy[0].length;
for (int y = 0; y < x; y++)
{
System.out.print(" " + argCopy[0][y]);
}
}
}
```

and the command-line invocation is

```
> java CommandArgsThree 1 2 3
```

- A. 0 0
- B. 1 2
- C. 0 0 0
- D. 1 2 3

Explanation:

In argCopy[0] = args;, the reference variable argCopy[0], which was referring to an array with two elements, is reassigned to an array (args) with three elements.

**31**

What will be the output of the program?

```
public class CommandArgs
{
public static void main(String [] args)
{
String s1 = args[1];
String s2 = args[2];
String s3 = args[3];
String s4 = args[4];
System.out.print(" args[2] = " + s2);
}
}
```

and the command-line invocation is

```
> java CommandArgs 1 2 3 4
```

- A. args[2] = 2
- B. args[2] = 3
- C. args[2] = null
- D. An exception is thrown at runtime.

Explanation: An exception is thrown because in the code `String s4 = args[4];`, the array index (the fifth element) is out of bounds. The exception thrown is the cleverly named `ArrayIndexOutOfBoundsException`.

**32**

What will be the output of the program?

```
#include<stdio.h>
int main()
{
int i=4, j=-1, k=0, w, x, y, z;
w = i || j || k;
x = i && j && k;
y = i || j &&k;
z = i && j || k;
printf("%d, %d, %d, %d\n", w, x, y, z);
return 0;
}
```

A. 1, 1, 1, 1

B. 1, 1, 0, 1

C. 1, 0, 0, 1

D. 1, 0, 1, 1

Explanation:

Step 1: int i=4, j=-1, k=0, w, x, y, z; here variable i, j, k, w, x, y, z are declared as an integer type and the variable i, j, k are initialized to 4, -1, 0 respectively.

Step 2: w = i || j || k; becomes w = 4 || -1 || 0;. Hence it returns TRUE. So, w=1

Step 3: x = i && j && k; becomes x = 4 && -1 && 0; Hence it returns FALSE. So, x=0

Step 4: y = i || j &&k; becomes y = 4 || -1 && 0; Hence it returns TRUE. So, y=1

Step 5: z = i && j || k; becomes z = 4 && -1 || 0; Hence it returns TRUE. So, z=1.

Step 6: printf("%d, %d, %d, %d\n", w, x, y, z); Hence the output is "1, 0, 1, 1".

**33**

```
public class F0091
{
public void main( String[] args )
{
System.out.println( "Hello" + args[0] );
}
```

```
}
```

What will be the output of the program, if this code is executed with the command line:

```
> java F0091 world
```

- A. Hello
- B. Hello Foo91
- C. Hello world
- D. The code does not run.

Explanation:

Option D is correct. A runtime error will occur owing to the main method of the code fragment not being declared static:

Exception in thread "main" java.lang.NoSuchMethodError: main

The Java Language Specification clearly states: "The main method must be declared public, static, and void. It must accept a single argument that is an array of strings."

### 34

What will be the output of the program?

```
public class TestDogs
{
    public static void main(String [] args)
    {
        Dog [][] theDogs = new Dog[3][];
        System.out.println(theDogs[2][0].toString());
    }
}

class Dog { }
```

- A. null
- B. theDogs

- C. Compilation fails
- D. An exception is thrown at runtime

Explanation:

The second dimension of the array referenced by theDogs has not been initialized. Attempting to access an uninitialized object element (System.out.println(theDogs[2][0].toString());) raises aNullPointerException

**35**

What will be the output of the program ?

```
public class Test
{
public static void main(String [] args)
{
signed int x = 10;
for (int y=0; y<5; y++, x--)
System.out.print(x + " , ");
}
}
```

- A. 10, 9, 8, 7, 6,
- B. 9, 8, 7, 6, 5,
- C. Compilation fails.
- D. An exception is thrown at runtime.

Explanation:

The word "signed" is not a valid modifier keyword in the Java language. All number primitives in Java are signed. Hence the Compilation will fail.

**36**

What will be the output of the program if the array begins at 65472 and each integer occupies 2 bytes?

```
#include<stdio.h>
```

```
int main()
{
```

```
int a[3][4] = {1, 2, 3, 4, 4, 3, 2, 1, 7, 8, 9, 0};  
printf("%u, %u\n", a+1, &a+1);  
return 0;  
}
```

- A. 65474, 65476
- B. 65480, 65496
- C. 65480, 65488
- D. 65474, 65488

Explanation: Step 1: `int a[3][4] = {1, 2, 3, 4, 4, 3, 2, 1, 7, 8, 9, 0};` The array `a[3][4]` is declared as an integer array having the 3 rows and 4 columns dimensions. Step 2: `printf("%u, %u\n", a+1, &a+1);` The base address(also the address of the first element) of array is 65472. For a two-dimensional array like a reference to array has type "pointer to array of 4 ints". Therefore, `a+1` is pointing to the memory location of first element of the second row in array `a`. Hence  $65472 + (4 \text{ ints} * 2 \text{ bytes}) = 65480$  Then, `&a` has type "pointer to array of 3 arrays of 4 ints", totally 12 ints. Therefore, `&a+1` denotes "12 ints \* 2 bytes \* 1 = 24 bytes". Hence, beginning address  $65472 + 24 = 65496$ . So, `&a+1 = 65496` Hence the output of the program is 65480, 65496

### 37

Point out the error in the program

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
int *x;
```

```
*x=100;
```

```
return 0;
```

```
}
```

- A. Error: invalid assignment for x
- B. Error: suspicious pointer conversion
- C. No error
- D. None of above

Explanation:

While reading the code there is no error, but upon running the program having an uninitialised variable can cause the program to crash (Null pointer assignment).

**38**

Point out the error, if any in the for loop.

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
int i=1;
```

```
for(;;)
```

```
{
```

```
printf("%d\n", i++);
```

```
if(i>10)
```

```
break;
```

```
}
```

```
return 0;
```

```
}
```

- A. There should be a condition in the for loop
- B. The two semicolons should be dropped
- C. The for loop should be replaced with while loop.
- D. No error

Explanation:

Step 1: for(;;) this statement will generate infinite loop.

Step 2: printf("%d\n", i++); this statement will print the value of variable i and increment i by 1(one).

Step 3: if(i>10) here, if the variable i value is greater than 10, then the for loop breaks.

Hence the output of the program is

```
1
2
3
4
5
6
7
8
9
10
```

**39**

Point out the error, if any in the program.

```
#include<stdio.h>

int main()
{
int a = 10;

switch(a)
{

}

printf("This is c program.");

return 0;

}
```

- A. Error: No case statement specified
- B. Error: No default specified
- C. No Error
- D. Error: infinite loop occurs

Explanation:

There can exists a switch statement, which has no case

**40**

Point out the error, if any in the while loop.

```
#include<stdio.h>

int main()
{
int i=1;

while()
{
```

```
printf("%d\n", i++);
```

```
if(i>10)
```

```
break;
```

```
}
```

```
return 0;
```

```
}
```

- A. There should be a condition in the while loop
- B. There should be at least a semicolon in the while
- C. The while loop should be replaced with for loop.
- D. No error

Explanation:

The while() loop must have conditional expression or it shows "Expression syntax" error.

Example: while(i > 10){ ... }