Huawei Test 1

1

A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart is:

( ) 1/13
( ) 2/13
( ) 1/26
( ) 1/52

Explanation: Here, n(S) = 52.

Let E = event of getting a queen of club or a king of heart. Then, n(E) = 2.

P(E)=n(E)/n(S)=2/52=1/26

2

A bag contains 4 white, 5 red and 6 blue balls. Three balls are drawn at random from the bag. The probability that all of them are red, is:

( ) 1/22
( ) 3/22
( ) 2/91
( ) 2/77

Explanation: Let S be the sample space.

Then, $n(S)$= number of ways of drawing 3 balls out of 15

Then, $= {}^{15}C_3 = $ (15 x 14 x 13)/(3 x 2 x 1) = 455   Let E = event of getting all the 3 red balls. $n(E) = {}^5C_3 = {}^5C_2 $=(5*4)/(2*1)=10 p(E)=n(E)/n(S)=10/455=2/91

3

Two cards are drawn together from a pack of 52 cards. The probability that one is a spade and one is a heart, is:

( ) 3/20
( ) 29/34
( ) 47/100
( ) 13/102

Explanation: Let S be the sample space.

Then, $n(S) = {}^{52}C_2 $=(52 x 51)/(2 x 1)=1326 Let E = event of getting 1 spade and 1 heart.
$n(E)$= number of ways of choosing 1 spade out of 13 and 1 heart out of 13
    $= ({}^{13}C_1 \times {}^{13}C_1)$
    = (13 x 13)

$= 169$. $p(E)=n(E)/n(S)=169/1326=13/102$

4

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

( ) 1/13

( ) 3/13

( ) 1/4

( ) 9/52

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

P (getting a face card) =12/52=3/13

5

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?

( ) 3/4

( ) 4/7

( ) 1/8

( ) 3/7

Explanation:

Let number of balls = (6 + 8) = 14. Number of white balls = 8. P (drawing a white ball) =8/14=4/7

6

A and B together have Rs. 1210. If of A's amount is equal to of B's amount, how much amount does B have?

( ) RS. 460

( ) RS 484

( ) RS 550

( ) RS 664

$$\frac{4}{15}A = \frac{2}{5}B$$

$$\Rightarrow A = \left(\frac{2}{5} \times \frac{15}{4}\right)B$$

$$\Rightarrow A = \frac{3}{2}B$$

$$\Rightarrow \frac{A}{B} = \frac{3}{2}$$

$$\Rightarrow A : B = 3 : 2.$$

$$\therefore \text{B's share} = \text{Rs.}\left(1210 \times \frac{2}{5}\right) = \text{Rs. } 484.$$

Explanation:

7

Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:

( ) 2.5
( ) 3.5
( ) 4.5
( ) 6.7

Explanation: Let the third number be x.

then, first number = 120% of x =120x/100=6x/5
Second number = 150% of x =150x/100=3x/2
Ratio of first two numbers =[6x/2: 3x/2=12x:15x=4:5]

8

A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 1000 more than D, what is B's share?

( ) RS 500
( ) RS 1500
( ) RS 2000
( ) RS 2500

Explanation: Let the shares of A, B, C and D be Rs. 5x, Rs. 2x, Rs. 4x and Rs. 3x respectively.

Then, 4x - 3x = 1000 => x = 1000. B's share = Rs. 2x = Rs. (2 x 1000) = Rs. 2000.

9

Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?

( )2:3:4
( )6:7:8
( )2:4:3
( )6:8:9

Explanation: Originally, let the number of seats for Mathematics, Physics and Biology be 5*x*, 7*x*and 8*x* respectively.

Number of increased seats are (140% of 5*x*), (150% of 7*x*) and (175% of 8*x*).
=>[(140/100) x 5x], and[(150/100) x 7x] and [(175/100) x 8x]
=>7x,21x/2 and 14x
=> The required ratio = 7*x* :21x/2:14x
=>14*x* : 21*x* : 28*x*
=>2 : 3 : 4.

10

In a mixture 60 litres, the ratio of milk and water 2 : 1. If the this ratio is to be 1 : 2, then the quanity of water to be further added is:
( )20
( )30
( )40
( )60

Explanation: Quantity of milk =[60 x 2/3] litres-=40 litres
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 =40/(20+x)
Now, 40/(20+x)=1/2
=>20 + *x* = 80
=> *x* = 60.

11

A train running at the speed of 60 km/hr crosses a pole in 9 seconds. What is the length of the train?
( )120
( )150
( )180
( )160

Explanation: Speed=[60 * 5/18] m/sec =50/3 m/sec
Length of the train = (Speed x Time) =50/3 * 9 m =150 m

12

A train 125 m long passes a man, running at 5 km/hr in the same direction in which the train is going,

in 10 seconds. The speed of the train is:

( ) 45 km/hr

( ) 50 km /hr

( ) 54km/hr

( ) 55 km/hr

Explanation: Speed of the train relative to man =(125/10)m/ sec

=25/2 m /sec

=[25/2 *18/5] km/hr

=45 km /hr

Let the speed of the train be x km/hr.

Then, relative speed = (x - 5) km/hr.

x - 5 = 45

=> x = 50 km/hr

13

A takes twice as much time as B or thrice as much time as C to finish a piece of work. Working together, they can finish the work in 2 days. B can do the work alone in:

( ) 4 days

( ) 6 days

( ) 8 days

( ) 12 days

Explanation: Suppose A, B and C take x, x/2 and x/3 days respectively to finish the work.

Then, [1/x+2/x+3/x]=1/2

=>6/x=1/2

=>x=12

So, B takes (12/2) = 6 days to finish the work

14

A can do a certain work in the same time in which B and C together can do it. If A and B together could do it in 10 days and C alone in 50 days, then B alone could do it in:

( ) 15 days

( ) 20 days

( ) 25 days

( ) 30 days

Explanation: (A + B)'s 1 day's work =1/10

C's 1 day's work =1/50

(A + B + C)'s 1 day's work =[1/10 + 1/50] =6/50 =3/25.... (i)

A's 1 day's work = (B + C)'s 1 day's work .... (ii)

From (i) and (ii), we get:

2 x (A's 1 day's work) =3/25

A's 1 day's work =3/50

B's 1 day's work=[1/10 - 3/50]=2/50=1/25

So, B alone could do the work in 25 days.

15

3 pumps, working 8 hours a day, can empty a tank in 2 days. How many hours a day must 4 pumps work to empty the tank in 1 day?

( ) 9
( ) 10
( ) 11
( ) 12

Explanation: Let the required number of working hours per day be x.

More pumps, Less working hours per day (Indirect Proportion)

Less days, More working hours per day (Indirect Proportion)

Pumps 4 : 3

} :: 8 : x

Days   1 : 2

=> 4 x 1 x x = 3 x 2 x 8

=> x=(3 x 2 x 8)/4

=> x=12

16

If the cost of *x* metres of wire is d rupees, then what is the cost of *y* metres of wire at the same rate?

( ) RS XY/D
( ) RS YD/X
( ) RS XD
( ) RS YD

Explanation: Cost of x metres = Rs. d. Cost of 1 metre = Rs.(d/x) Cost of y metres = Rs. [d/x *y]=Rs. Yd/x

17

A vessel is filled with liquid, 3 parts of which are water and 5 parts syrup. How much of the mixture

must be drawn off and replaced with water so that the mixture may be half water and half syrup?

( ) 1/3
( ) 1/4
( ) 1/5
( ) 1/7

Explanation: Suppose the vessel initially contains 8 litres of liquid.
Let x litres of this liquid be replaced with water.
Quantity of water in new mixture =[3-3x/8 +x] liters
Quantity of water in new mixture =[5-5x/8] liters
=>[3-3x/8+ x]*[5-5x/8]
=> 5x + 24 = 40 - 5x
=> 10x = 16
=>x=8/5
So, part of the mixture replaced =[8/5 *1/8] = 1/5

18

Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be

( ) RS 169.5
( ) RS 170
( ) RS 175.5
( ) RS 180

Explanation: Since first and second varieties are mixed in equal proportions.
So, their average price = Rs. [126 + 135]/2 = Rs. 130.50
So, the mixture is formed by mixing two varieties, one at Rs. 130.50 per kg and the other at say, Rs. x per kg in the ratio 2 : 2, *i.e.,* 1 : 1. We have to find x.
By the rule of alligation, we have:
Cost of 1 kg of 1ˢᵗ kindCost of 1 kg tea of 2ⁿᵈ kind
Rs. 130.50Mean Price   Rs. x
(x - 153)   Rs. 153   22.50
=>[x-153]22.50 =1
=>x-153=22.50
=>x=175.50

19

Look at this series: F2, __, D8, C16, B32, ... What number should fill the blank?

( ) A16
( ) G4
( ) E4
( ) E3

Explanation: The letters decrease by 1; the numbers are multiplied by 2.

20

Look at this series: 664, 332, 340, 170, _____, 89, ... What number should fill the blank?

( ) 85
( ) 97
( ) 109
( ) 178

Explanation: This is an alternating division and addition series: First, divide by 2, and then add 8

21
What will be the content of 'file.c' after executing the following program?

#include<stdio.h>

```
int main()
{ FILE *fp1, *fp2;
fp1=fopen("file.c", "w");
fp2=fopen("file.c", "w");
fputc('A', fp1);
fputc('B', fp2);
fclose(fp1);
fclose(fp2);
return 0; }
```

a)
B
b)
A
B
c)
B
B
c)
Error in opening file 'file1.c'

( ) a)
( ) b)
( ) c)
( ) d)

Explanation: Here fputc('A', fp1); stores 'A' in the file1.c then fputc('B', fp2);overwrites the contents of

the file1.c with value 'B'. Because the fp1 and fp2opens the file1.c in write mode.

Hence the file1.c contents is 'B'.

22

Pointing to a photograph Anjali said, "He is the son of the only son of my grandfather." How is the man in the photograph related to Anjali?

( ) Brother
( ) Uncle
( ) Data is inadequate
( ) Son

Explanation: The man in the photograph is son of Anjali's grandfather's son i.e., the son of Anjali's father. Hence, the boy is the brother of Anjali.

23

What will be the output of the program ?

#include<stdio.h>

int main()

{   int k=1;

printf("%d == 1 is" "%s\n", k, k==1?"TRUE":"FALSE");

return 0;   }

( ) k == 1 is TRUE
( ) 1 == 1 is TRUE
( ) 1 == 1 is FALSE
( ) K == 1 is FALSE

Explanation: Step 1: int k=1; The variable k is declared as an integer type and initialized to '1'.

Step 2: printf("%d == 1 is" "%s\n", k, k==1?"TRUE":"FALSE"); becomes

=> k==1?"TRUE":"FALSE"

=> 1==1?"TRUE":"FALSE"

=> "TRUE"

Therefore the output of the program is 1 == 1 is TRUE

24

What will be the output of the program ?

```c
#include<stdio.h>
char *str = "char *str = %c%s%c; main(){ printf(str, 34, str, 34);}";

int main()
{
printf(str, 34, str, 34);
return 0;
}
```

( ) char *str = "char *str = %c%s%c; main(){ printf(str, 34, str, 34);}"; main(){ printf(str, 34, str, 34);}
( ) char *str = %c%s%c; main(){ printf(str, 34, str, 34);}
( ) No output
( ) Error in program

25

If the file 'source.txt' contains a line "Be my friend" which of the following will be the output of below program?

```c
#include<stdio.h>

int main()

{

FILE *fs, *ft;

char c[10];

fs = fopen("source.txt", "r");

c = getc(fs);

fseek(fs, 0, SEEK_END);

fseek(fs, -3L, SEEK_CUR);

fgets(c, 5, fs);

puts(c);

return 0;

}
```

( ) friend

( ) frien
( ) end
( ) Error in fseek();

Explanation: The file source.txt contains "Be my friend".

fseek(fs, 0, SEEK_END); moves the file pointer to the end of the file.

fseek(fs, -3L, SEEK_CUR); moves the file pointer backward by 3 characters.

fgets(c, 5, fs); read the file from the current position of the file pointer.

Hence, it contains the last 3 characters of "Be my friend".

Therefore, it prints "end".

26
What will be the output of the program ?

#include<stdio.h>

int main()

{

float a=3.15529;

printf("%2.1f\n", a);

return 0;

}

( ) 3.00
( ) 3.15
( ) 3.2
( ) 3

Explanation: float a=3.15529; The variable a is declared as an float data type and initialized to value 3.15529;

printf("%2.1f\n", a); The precision specifier tells .1f tells the printf function to place only one number after the .(dot).

Hence the output is 3.2

27

What is the output of the program

#include<stdio.h>

int main()

{   enum status { pass, fail, atkt};

enum status stud1, stud2, stud3;

stud1 = pass;

stud2 = atkt;

stud3 = fail;

printf("%d, %d, %d\n", stud1, stud2, stud3);

return 0;   }

( )0,1,2
( )0,2,1
( )1,2,3
( )1,3,2

Explanation: enum takes the format like {0,1,2..) so pass=0, fail=1, atkt=2
stud1 = pass (value is 0)
stud2 = atkt (value is 2)
stud3 = fail (value is 1)
Hence it prints 0, 2, 1

28

What will be the output of the program?

#include<stdio.h>

int main()

{   extern int i;

i = 20;

printf("%d\n", sizeof(i));

return 0; }

( )2.5
( )4
( )vary from compiler
( ) Linker Error : Undefined symbol 'i'

Explanation: Linker Error : Undefined symbol 'i'

The statement extern int i specifies to the compiler that the memory for 'i' is allocated in some other program and that address will be given to the current program at the time of linking. But linker finds that no other variable of name 'i' is available in any other program with memory space allocated for it. Hence a linker error has occurred

29
What is the output of the program?

#include<stdio.h>

int main()

{ extern int a;

printf("%d\n", a);

return 0;   }

int a=20;

( )20
( )0
( )Garbage Value
( )error

Explanation: extern int a; indicates that the variable a is defined elsewhere, usually in a separate source code module.

printf("%d\n", a); it prints the value of local variable int a = 20. Because, whenever there is a conflict between local variable and global variable, local variable gets the highest priority. So it prints 20.

30
What is the output of the program

```
#include<stdio.h>

int main()

{  char *s1;

char far *s2;

char huge *s3;

printf("%d, %d, %d\n", sizeof(s1), sizeof(s2), sizeof(s3));

return 0;  }
```

(   )2,4,6
(   )2,4,4
(   )4,4,2
(   )2,2,2

Explanation: Any pointer size is 2 bytes. (only 16-bit offset)
So, char *s1 = 2 bytes.
So, char far *s2; = 4 bytes.
So, char huge *s3; = 4 bytes.
A far, huge pointer has two parts: a 16-bit segment value and a 16-bit offset value.

Since C is a compiler dependent language, it may give different at different platforms. The above program works fine in Windows (TurboC), but error in Linux (GCC Compiler).

31
What is the output of the program

```
#include<stdio.h>

int main()

{  struct emp

{  char name[20];

int age;

float sal;  };

struct emp e = {"Tiger"};

printf("%d, %f\n", e.age, e.sal);
```

return 0; }

( ) A. 0, 0.000000
( ) Garbage values
( ) Error
( ) None of above

Explanation: When an automatic structure is partially initialized remaining elements are initialized to 0(zero).

32
What will be the output of the program?

#include<stdio.h>

int main()

{ float a=0.7;

if(a < 0.7)

printf("C\n");

else

printf("C++\n");

return 0; }

( ) C
( ) C++
( ) Compiler error
( ) Non of above

Explanation: if(a < 0.7) here a is a float variable and 0.7 is a double constant. The float variable a is less than double constant 0.7. Hence the if condition is satisfied and it prints 'C'

33
What will be the output of the program?

```
#include<stdio.h>
int main()
{ float *p;
printf("%d\n", sizeof(p));
return 0; }
```

( ) 2 in 16bit compiler,
( ) 2 in 16bit compiler
( ) 2 in 32bit compiler
( ) 4 in 32bit compiler 4 in 16bit compiler, 2 in 32bit compiler 4 in 16bit compiler, 4 in 32bit compiler

Explanation: sizeof(x) returns the size of x in bytes.
float *p is a pointer to a float.

In 16 bit compiler, the pointer size is always 2 bytes.
In 32 bit compiler, the pointer size is always 4 bytes

34
What will be the output of the program?

```
#include<stdio.h>

int main()

{

float fval=7.29;

printf("%d\n", (int)fval);

return 0;

}
```

( ) 0
( ) 0. 0.
( ) 7.0
( ) 7

Explanation: printf("%d\n", (int)fval); It prints '7'. because, we typecast the (int)fvalin to integer. It converts the float value to the nearest integer value.

35
What will be the output of the program?

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

#include<math.h>

int main()

{ printf("%f\n", sqrt(36.0));

return 0; }

( ) 6
( ) 6.0
( ) 6.000000
( ) Error: Prototype sqrt() not found.

Explanation: printf("%f\n", sqrt(36.0)); It prints the square root of 36 in the float format(i.e 6.000000). Declaration Syntax: double sqrt(double x) calculates and return the positive square root of the given number.

36
What will be the output of the program?

#include<stdio.h>

#include<math.h>

int main()

{ printf("%d, %d, %d\n", sizeof(3.14f), sizeof(3.14), sizeof(3.14l));

return 0; }

( ) 4, 4, 4
( ) 4, 8, 8
( ) 4, 8, 10
( ) 4, 8, 12

Explanation: sizeof(3.14f) here '3.14f' specifies the float data type. Hence size of float is 4 bytes.

sizeof(3.14) here '3.14' specifies the double data type. Hence size of float is 8 bytes.

sizeof(3.14l) here '3.14l' specifies the long double data type. Hence size of float is 10 bytes.

Note: If you run the above program in Linux platform (GCC Compiler) it will give 4, 8, 12 as output. If you run in Windows platform (TurboC Compiler) it will give 4, 8, 10 as output. Because, C is a machine dependent language

37

What will be the output of the program?

#include<stdio.h>

int main()

{

int i;

i = printf("How r u\n");

i = printf("%d\n", i);

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

return 0;
}

How r u
A.7
 2

How r u
B.8
 2

How r u
C.1
 1

D.Error: cannot assign pri

( )A
( )B
( )C
( )D

Explanation: In the program, printf() returns the number of charecters printed on the console

i = printf("How r u\n"); This line prints "How r u" with a new line character and returns the length of string printed then assign it to variable i.
So i = 8 (length of '\n' is 1).

i = printf("%d\n", i); In the previous step the value of i is 8. So it prints "8" with a new line character and returns the length of string printed then assign it to variable i. So i = 2 (length of '\n' is 1).

printf("%d\n", i); In the previous step the value of i is 2. So it prints "2".

What will be the output of the program?

```c
#include<stdio.h>

int main()

{

int i;

i = scanf("%d %d", &i, &i);

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

return 0;

}
```

( ) 1
( ) 2
( ) Garbage Value
( ) Error: cannot assign scanf to variable

Explanation: scanf() returns the number of variables to which you are provding the input.

i = scanf("%d %d", &i, &i); Here Scanf() returns 2. So i = 2.

printf("%d\n", i); Here it prints 2.

39

What will be the output of the program?

#include<stdio.h>

int main()

{

int i;

char c;

for(i=1; i<=5; i++)

{

scanf("%c", &c); /* given input is 'b' */

ungetc(c, stdout);

printf("%c", c);

ungetc(c, stdin);
}

return 0;
}

( ) bbbb
( ) bbbbb
( ) b
( ) Error in ungetc statement.

Explanation: The ungetc() function pushes the character c back onto the named input stream, which must be open for reading.

This character will be returned on the next call to getc or fread for that stream.

One character can be pushed back in all situations.

A second call to ungetc without a call to getc will force the previous character to be forgotten.

40

What will be the output of the program?

#include<stdio.h>

#include<stdlib.h>

int main()

{ char *i = "55.555";

int result1 = 10;

float result2 = 11.111;

result1 = result1+atoi(i);

result2 = result2+atof(i);

printf("%d, %f", result1, result2);

return 0; }

( ) 55, 55.555
( ) 66, 66.666600
( ) 65, 66.666000
( ) 55, 55

Explanation: Function atoi() converts the string to integer.

Function atof() converts the string to float.

result1 = result1+atoi(i);

Here result1 = 10 + atoi(55.555);

result1 = 10 + 55;

result1 = 65;

result2 = result2+atof(i);

Here result2 = 11.111 + atof(55.555);

result2 = 11.111 + 55.555000;

result2 = 66.666000;

So the output is "65, 66.666000