1. If the total ages of Aditi and Mihir is 18 years more than the total age of Mihir and Shreya. Shreya is how many years younger than Aditi?

a. 14 years
b. 18 years
c. 12 years
d. Cannot be Determined

Answer: b. 18 years

Solution:

Let the age of Aditi be x
Let the age of Mihir be y
Let the age of Shreya be z
Then, according to question,
$(x+y) - (y+z) = 18$
$\Rightarrow x+y-y-z = 18$
$\Rightarrow x-z = 18$
Thus, Shreya is 18 years younger than Aditi.

2. A father is thrice as old as his daughter. If 15 years ago, the age of the father was 10 times the age of the daughter, what is the present age of the father?

a. 58.4 years
b. 57.85 years
c. 38.5 years
d. 80.4 years

Answer: b. 57.85 years

Solution:

Let the present age of the father be 3x
So, the present age of the daughter = x
According to the question,
$\Rightarrow 3x-15 = 10(x-15)$
$\Rightarrow 3x-15 = 10x - 150$
$\Rightarrow 7x = 135$
$\Rightarrow x = 19.2857$

Thus, the present age of father $= 19.2857 \times 3 = 57.8571$ years

3. What is the rate of simple interest?

I. The total interest earned was Rs. 4000.
II. The sum was invested for 4 years.

A) Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.

B) Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.

C) Statement I or in Statement II alone are sufficient to answer the question.

D) Statements I and II together are not sufficient to answer the question.

Answer: D. Statements I and II together are not sufficient to answer the question.

Solution:

We know that, R = (100* S.I)/(P*T).
Now, I gives, S.I. = Rs. 4000.
II gives, T = 4 years.
But P is unknown. So, we cannot find R.
So, given data is insufficient to get R.

4. A clock shows 12 a.m. when the minute hand covers 5400°, what is the angle between the hour and the minute hands?

a. 120°
b. 90°
c. 45°
d. 180°

Answer: b. 90°

Solution:

The minute hand covers 5400°.
The minute hand takes 1 hour to cover 360°, so for 5400°, it travels 15 hours and the time will be 3 p.m.
Formula for calculating the angle:
⇒ θ = 30 (hour) – 11/2 (minutes)
⇒ θ = 30 (3) – 11/2 (0)
⇒ θ = 90°
At 3 p.m., the angle between the hour and the minute hands is 90°.

5. A fruit seller sold 2 kg of oranges for ₹200 at a loss of 20%. At what price must he sell a kg of oranges to gain 25%?

a. ₹156.25
b. ₹176.25
c. ₹159.25
d. ₹139.25

Answer: a. ₹156.25

Solution:

Selling price of 2 kg of oranges = ₹200
Selling price of 1 kg of oranges = ₹100 (including a loss of 20%)
0.8 * CP = 100
Thus, CP for 1 kg of oranges = ₹125
SP for 1 kg of oranges to gain 25% = 125% of 125 = ₹156.25

6. Abhay bought a second-hand bike for ₹25000 and spent ₹4000 on repairs. He then sells it for ₹43500. Find his profit %.

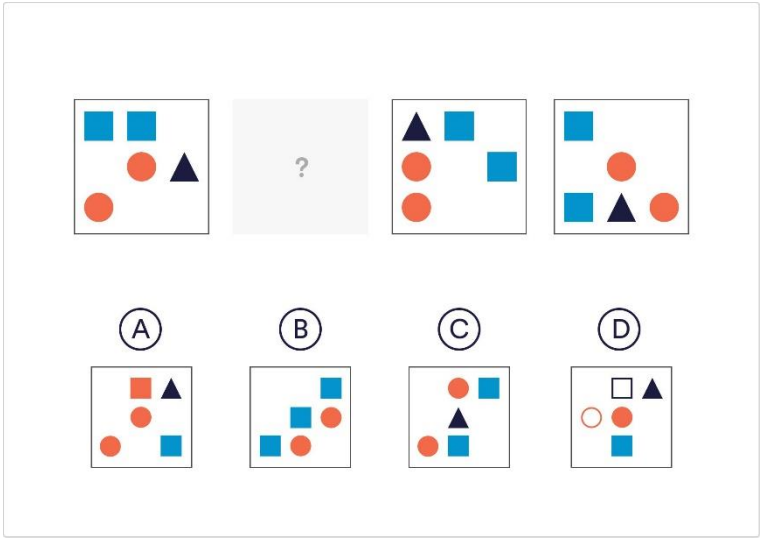
a. 50%
b. 40%
c. 38%
d. 45%

Answer: a. 50%

Solution:

CP of the bike = 25000 + 4000 = 29000
SP of the bike = 43500
Profit % = ((43500-29000)/29000) * 100 = 50%

7. Which of the suggested answers completes the sequence?



a. A
b. B
c. C
d. D

Answer: c. C

Solution: There are always 2 blue squares, 2 orange circles and 1 navy triangle.

8. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

a. 1/2
b. 3/5
c. 9/20
d. 8/15

Answer: c. 9/20

Solution:

Here, S = {1, 2, 3, 4, ..., 19, 20}.
Let E = event of getting a multiple of 3 or 5 = {3, 6 , 9, 12, 15, 18, 5, 10, 20}.
P(E) = n(E)/n(S) = 9/20.

9. In a certain code language "ORKUT" is coded as "LIPFG". What is the code for "TWITTER"?

a. GDRGHVI
b. GDRTGVI
c. GDRGGVI
d. GDRGGEI

Answer: c. GDRGGVI

Solution:

A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The opposite letters in the table are the encoding pattern for the language used.

10. A box contains 3 blue marbles, 4 red, 6 green marbles and 2 yellow marbles. If three marbles are picked at random, what is the probability that they are all blue?

a. 1/455
b. 2/455
c. 4/455
d. 1/91

Answer: a. 1/455

Solution:

Given that there are three blue marbles, four red marbles, six green marbles and two yellow marbles.
Probability that all the three marbles picked at random are blue = $^3C_3$ / $^{15}C_3$ = (3 * 2 * 1) / (15 * 14 * 13) = 1/455

11. A quiz has one multiple choice question with answer choices a, b and c and two true/false question. what is the probability of answering all the three questions correctly by guessing?

a. 1/5
b. 1/4
c. 1/3
d. 1/12

Answer: d. 1/12

Solution:

Probability for choosing MCQ (3 options) = 1/3
Probability for choosing T/F = ½
Thus, Probability =1/3*1/2*1/2=1/12

12. Vipin's and Javid's salaries are in the proportion of 4:3 respectively. What is Vipin's salary?
I. Javid's salary is 75% that of Vipin's salary.
II. Javid's salary is ₹4500.

A. if the data in statement I alone are sufficient to answer the question;
B. if the data in statement II alone are sufficient answer the question;
C. if the data either in I or II alone are sufficient to answer the question;
D. if the data even in both the statements together are not sufficient to answer the question;
E. If the data in both the statements together are needed.

Answer: B. if the data in statement II alone are sufficient answer the question;

Solution:

Statement I is merely an interpretation of the information contained in the question.
However, Vipin's salary can be determined from statement II as follows:
Let Vipin's and Javid's salaries be 4x and 3x respectively.
Then, 3x = 4500 or x = 1500.
Vipin's salary = 4x = Rs. 6000.
Thus, II alone is sufficient.

13. Statements: Some actors are singers. All the singers are dancers.

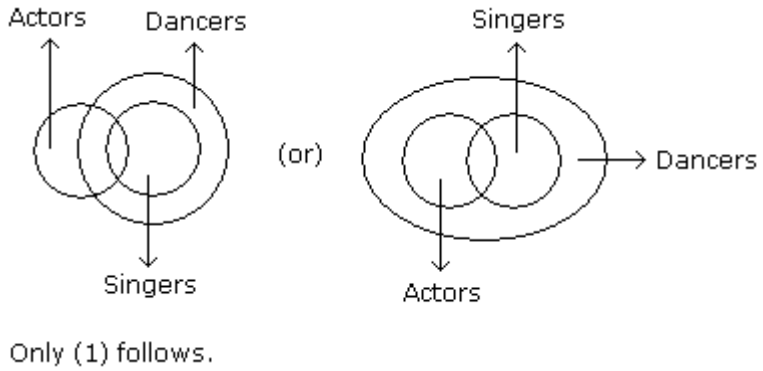
Conclusions:
Some actors are dancers.
No singer is actor.

A. Only (1) conclusion follows
B. Only (2) conclusion follows
C. Either (1) or (2) follows

D. Neither (1) nor (2) follows
E. Both (1) and (2) follow

Answer: A. Only (1) conclusion follows

Solution:



Only (1) follows.

14. Ram and Shyam invested Rs.2500 and Rs.6000 respectively in a firm. After 2 months, they admit Rahul who contributed Rs.3000. Shyam withdraws his contribution after 5 months. What would be Shyam's share if the profit at the end of the year was Rs. 1200?

a. 600
b. 400
c. 300
d. None of these

Answer: b. 400

Solution:

To solve this, it is important to calculate the ratio of their contribution first. It is given that Ram invested his capital for 12 months while Rahul invested his capital for (12 - 2) i.e., 10 months and Shyam invested for 5 months.
So, Ram : Shyam : Rahul = 2500 × 12: 6000 × 5: 3000 × 10 = 30000 : 30000 : 30000
=> Ram: Shyam: Rahul = 1 : 1 : 1.
Now, Bhuvesh's share will be = {1 / (1 + 1 + 1)} = 1/3rd of profits = (1/3) × 1200 = Rs. 400.

15. 20 typists can type 1000 pages in 5 hours. Find the average number of pages typed by each typist in an hour.

a. 10 pages
b. 8 pages
c. 7.5 pages
d. 8.5 pages

Answer: a. 10 pages

Solution:

Total pages typed by 20 typists in 5 hours = 1000
Pages typed by one typist in 8 hours = 1000/20= 50 pages
Pages typed by one typist in one hour = 50/5= 10 pages

16. 3/5th of a certain number is added to the same number and the sum is subtracted from 117, the result is same as the original number. Find the number.

a. 13
b. 21
c. 45
d. 91

Answer: c. 45

Solution:

$117 - (3x/5 + x) = x$
$117 - 8x/5 = x$
$13x/5 = 117$
$x = 45$

17. In how many different ways can 3 identical green shirts and 3 identical red shirts be distributed among 6 children such that each child receives a shirt?

a. 20
b. 40
c. 216
d. 720

Answer: a. 20

Solution:

${}^{6}C_{3} * 1 * {}^{3}C_{3} * 1 = 20$

18. The price of a pair of sneakers was Rs.80 for the last six months of the last year. On January first, the price increased 20%. After the price increase, an employee bought these sneakers with a 10% employee discount. What price did the employee pay?

a. Rs 70.40
b. Rs 82.00
c. Rs 83.33
d. Rs 86.40

Answer: d. Rs 86.40

Solution:

Original Price = Rs 80
After first increase of 20%, the price will be
80 + (80 * 20/100) = 80 + 80/5 = 80 + 16 = Rs 96
After the discount of 10%, the price will be
96 – (96 * 10/100) = 96 – 9.6 = Rs 86.4

19. An airplane covers a certain distance at a speed of 300kmph in 5 hours. To cover the same distance in 1 hour 40 minutes, it must travel at a speed of:

a. **600 kmph**
b. **720 kmph**
c. **800 kmph**
d. **900 kmph**

Answer: d. 900 kmph

Solution:

Distance = 300 * 5 = 1500km
Time = 1 hour 40 minutes = 100/60 = 5/3 hours
Speed = Distance/Time = 1500 / (5/3) = 900 kmph

20. In a flight of 600km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of the flight increased by 30 minutes. The duration of the flight is?

a. **1 hour**
b. **2 hours**
c. **3 hours**
d. **4 hours**

Answer: a. 1 hour

Solution:

Let the duration of the flight be x hours.
Then, (600/x) – [600 / (x + 1/2)] = 200
(600/x) – 1200 / (2x + 1) = 200
x(2x + 1) = 3
On solving we get x = -3/2 or 1
-3/2 is rejected as time cannot be negative so x=1 hour

21. A restaurant has a special meal that allows you to choose one of the three salads, one of five sandwiches, and two of fifteen side dishes. How many possible combinations are there for the meal?

a. 5700
b. 1575
c. 1250
d. 300

Answer: b. 1575

Solution:

$3C1 * 5C1 * 15C2 = 3 * 5 * 105 = 1575$

22. A bag contains x blue chips and y red chips. If the probability of selecting a red chip at random is 4/9, then x/y = ?

a. 6/11
b. 3/5
c. 7/4
d. 5/3

Answer: b. 3/5

Solution:

$x / (x + y) = 4/9$
$9x = 4x + 4y$
$5x = 3y$
$x/y = 3/5$

23. Three friends are buying a gift for a friend. Rohan contributes Rs 3 more than 1/4 the cost of the gift, Raghav contributes Rs 1 less than 1/3 the cost of the gift, and the Tejas contributes the remaining Rs 30. What is the cost of the gift?

a. Rs 50
b. Rs 60.5
c. Rs 76.8
d. Rs 85.7

Answer: c. Rs. 76.8

Solution:

Let the cost be x.
Rohan = $x/4 + 3$
Raghav = $x/3 - 1$
Tejas = 30
$x/4 + 3 + x/3 - 1 + 30 = x$
$(3x + 384 + 4x)/12 = x$
$(7x + 384)/12 = x$
$5x = 384$

$x = 76.8$

24. If the average (arithmetic mean) of x, y and 20 is 9, and the average of x, 2y and 2 is 7, then y = ?

a. 7
b. 9
c. 10
d. 12

Answer: d. 12

Solution:

$(x + y + 20)/3 = 9$
$X + y = 7$ -------(1)
$(x + 2y + 2)/3 = 7$
$x + 2y = 19$ -------(2)
By subtracting the first equation from the second we get $y = 12$

25. Intimate : Close :: Questionable : ?

a. Careful
b. Doubtful
c. Neglect
d. Aid

Answer: Doubtful

Solution:

From Analysing the left side, we can conclude that Close is the synonym of Intimate. By using the same logic, we can say that Doubtful is the synonym for Questionable.

26. What is the output of the following program?

```
public class Test extends Thread implements Runnable
{
    public void run()
    {
        System.out.printf("Welcome");
    }
    public static void main(String[] args) throws
InterruptedException
    {
        Test obj = new Test();
        obj.run();
        obj.start();
    }
}
```

a. Runtime error
b. Compilation error
c. WelcomeWelcome
d. None of the above

Answer: c. WelcomeWelcome

Explanation: Test class extends Thread class that has start() method implemented. So, invoking start() on an object that extends Thread class invokes run() method defined in the program.

27. **What will be the output of the program?**

```
class Test implements Runnable {
public
    void run()
    {
        System.out.println("Run");
    }
} class Myclass {
public
    static void main(String[] args)
    {
        Test t = new Test();
        t.start();
        System.out.println("Main");
    }
}
```

a. Main Run
b. Run Main
c. Compile time error
d. Depend upon JVM

Answer: c. Compile time error

Explanation : In the above program, we will get compile time error because start() method is present in the Thread class only and we are implementing Runnable interface.

28. **ROLLBACK in a database is ___ statement.**

a. DDL
b. DML
c. DCL
d. TCL

Answer: d. TCL

29. Write a query to find the Nth highest salary from the table without using TOP/limit keyword.

EmployeeInfo Table:

EmpID	EmpFname	EmpLname	Department	Project	Address	DOB	Gender
1	Sanjay	Mehra	HR	P1	Hyderabad (HYD)	01/12/1976	M
2	Ananya	Mishra	Admin	P2	Delhi(DEL)	02/05/1968	F
3	Rohan	Diwan	Account	P3	Mumbai(BOM)	01/01/1980	M
4	Sonia	Kulkarni	HR	P1	Hyderabad (HYD)	02/05/1992	F
5	Ankit	Kapoor	Admin	P2	Delhi(DEL)	03/07/1994	M

EmployeePosition Table:

EmpID	EmpPosition	DateOfJoining	Salary
1	Manager	01/05/2019	500000
2	Executive	02/05/2019	75000
3	Manager	01/05/2019	90000
2	Lead	02/05/2019	85000
1	Executive	01/05/2019	300000

a.
```
SELECT Salary
FROM EmployeePosition E1
WHERE N-1 = (
    SELECT COUNT( DISTINCT ( E2.Salary ) )
    FROM EmployeePosition E2
    WHERE E2.Salary >  E1.Salary );
```

b.
```
SELECT Salary
FROM EmployeePosition E1
WHERE N = (
    SELECT COUNT( DISTINCT ( E2.Salary ) )
    FROM EmployeePosition E2
    WHERE E2.Salary >  E1.Salary );
```

c. SELECT Salary
FROM EmployeePosition E1
WHERE N-1 = (
SELECT COUNT(E2.Salary)
FROM EmployeePosition E2
WHERE E2.Salary > E1.Salary);

d. SELECT Salary
FROM EmployeePosition E1
WHERE N-1 = (
SELECT COUNT(DISTINCT (E2.Salary))
FROM EmployeePosition E2
WHERE E2.Salary < E1.Salary);

Answer: a. SELECT Salary
FROM EmployeePosition E1
WHERE N-1 = (
SELECT COUNT(DISTINCT (E2.Salary))
FROM EmployeePosition E2
WHERE E2.Salary > E1.Salary);

30. Write a query to fetch details of employees whose EmpLname ends with an alphabet 'A' and contains five alphabets.

EmployeeInfo Table:

EmpID	EmpFname	EmpLname	Department	Project	Address	DOB	Gender
1	Sanjay	Mehra	HR	P1	Hyderabad (HYD)	01/12/1976	M
2	Ananya	Mishra	Admin	P2	Delhi(DEL)	02/05/1968	F
3	Rohan	Diwan	Account	P3	Mumbai(BOM)	01/01/1980	M
4	Sonia	Kulkarni	HR	P1	Hyderabad (HYD)	02/05/1992	F
5	Ankit	Kapoor	Admin	P2	Delhi(DEL)	03/07/1994	M

a. SELECT * FROM EmployeeInfo WHERE EmpLname LIKE '_a';
b. SELECT * FROM EmployeeInfo WHERE EmpLname LIKE '%a';
c. SELECT * FROM EmployeeInfo WHERE EmpLname LIKE '___a';
d. SELECT * FROM EmployeeInfo WHERE EmpLname LIKE 'a___';

Answer: c. SELECT * FROM EmployeeInfo WHERE EmpLname LIKE '___a';