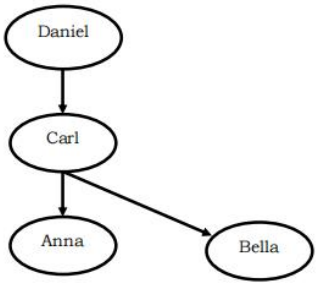
CSAT Weekly Test

1. Three statements S1, S2 and S3 are given below followed by a Question:
S1: Carl has scored less mark than Daniel but more marks than Anna and Bella.
S2: Daniel has scored the most marks.
S3: Anna has score more marks than Bella.

Question:
Who among the Anna, Bella, Carl and Daniel has scored the lowest marks?
Which among the following is correct in respect of above statements and question?

(a) S1 alone is sufficient to answer the question.
(b) S1 and S2 together are sufficient to answer the question.
(c) S2 and S3 together are sufficient to answer the question.
(d) S1 and S3 together are sufficient to answer the question.

Correct Answer: (d)
Solution:



With S1, we can deduce that Information derived S2 adds no extra value as from S1 we can see that Daniel has scored the maximum. Information from S3 presents clearly that Anna has scored more marks than Bella. But it fails to give the complete order. So, S1 and S3 together are required. So, option (d) is the best answer.

2. How many integers are there between 1 to 100 which have 5 as a digit and are divisible by 5?
(a) 5
(b) 11
(c) 12
(d) 13

Correct Answer: (b)
Solution: List of numbers with 5 as a digit and are divisible by 5 are: 5, 15, 25, 35, 45, 50, 55, 65, 75, 85 and 95.
So, option (b) is the correct answer.

3. If $A = \sqrt{(8+2\sqrt{15})}$ and $B= \sqrt{(8-2\sqrt{15})}$, then the value of $(A + B)^2$?

(a) 25

(b) 20
(c) 18
(d) 15

Correct Answer: (b)
Solution:
⇒ A = √(8+2√15)
=> A = √((√5 + √3)^2))
⇒ A = √((√5)^2 + (√3)^2 + 2 × √5 × √3)
⇒ A = (√5 + √3)^2
⇒ A = (√5 + √3)
Similarly,
⇒ B = √(8−2√15)
⇒ B = √((√5 - √3)^2))
⇒ B = (√5 - √3)
Now,
⇒ (A + B) ^{2}
⇒ (√5 + √3 + √5 - √3)^2
⇒ (2√5)^2
⇒ 20

4. Three signals get red at the interval of 10 seconds, 12 seconds, and 14 seconds. If they get red together for the first time at 1 : 00 PM, then in the next 2 hours how many times they will get red?

(a) 9
(b) 15
(c) 19
(d) 17

Correct Answer: (d)
Solution: Given,
Three signals get red at the interval of 10 seconds, 12 seconds, and 14 seconds.
They will get red together at LCM of (10, 12 and 14) = 420 seconds
Total seconds in 2 hours = 7200 seconds
Quotient of 7200/420 = 17
Next, they will get red after 420, 840, 1260, 1680, and so till 17 times
∴ The signal will get red for 17 times in the next 2 hours.

5. The half of the sum of the ages of A and B is 5 years more than the age of C. The sum of ages of B and C is 10 years more than the age of A. If the age of A is 42 years, then find the age of B.

(a) 24 years
(b) 32 years
(c) 28 years
(d) 22 years

Correct Answer: (a)
Solution: Given, Age of A = 42 years
(A + B)/2 = C + 5
And B + C = 10 + A

According to the question
(B + C) = 42 + 10 = 52 years
So, (A + B + C) = 42 + 52 = 94 years
(A + B)/2 = C + 5
=> A + B = 2C + 10

Adding C on both side
A + B + C = 3C + 10
=> 94 = 3C + 10
=> 3C = 94 – 10
3C = 84
=> **C = 84/3 = 28**

Now, A + B + C = 94
42 + B + 28 = 94
B = 94 – 42 – 28
B = 24 years
Age of B is 24 years.

6. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

12, 28, 52, 84, ?

(a) 124
(b) 126
(c) 116
(d) 122

Correct Answer: (a)
Solution: Pattern followed here is,
12 + 16 = 28, (16 + 8 = 24)
28 + 24 = 52, (24 + 8 = 32)
52 + 32 = 84, (32 + 8 = 40)
84 + 40 = 124
Hence, '124' will complete the given series.

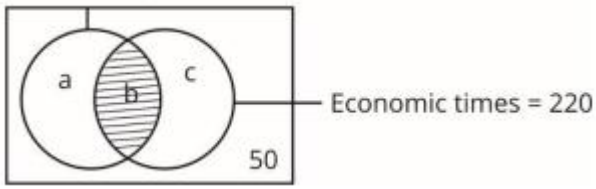
7. Two statements are given followed by a question:
S1: Out of 300 readers, 200 read financial express, 220 read Economic times and 50 read Indian Express.

S2: Out of total 300 readers, 200 read financial express, 220 read Economic times and 50 read neither.
Question:
How many people, read both Economic Times and Financial Express?

Which of the following is correct in respect to the above statements and the questions?
(a) S1 alone is sufficient to answer the question.
(b) S2 alone is sufficient to answer the question.
(c) S1 and S2 together are sufficient to answer the question but neither S1 nor S2 alone is sufficient to answer the question.
(d) S1 and S2 together are not sufficient to answer the question.

Correct Answer: (b)
Solution: S1 alone is not sufficient to answer the question.
Using S2:

Financial express = 200



Here,using the venn diagram,
a + b = 200 … (i)
b + c = 220 … (ii)
Also, a + b + c = 300 – 50 = 250 … (iii)
From (i) and (iii), we get c = 50
Therefore, b = 220 – 50 = 170
Hence, statement B alone is sufficient.

8. Find the largest four digit natural number N which when divided by 45, 60 and 72 leaves a remainder of 33, 48 and 60 respectively.
(a) 9348
(b) 9528
(c) 9708
(d) 9888

Correct Answer: (c)
Solution: Carefully observing the difference between the divisors and the remainders is constant i.e. 12.
When N is divided by 45, 60 and 72, respective remainders of 33, 48 and 60 are left or a negative remainder of (-12) is left in each case.
This means N + 12 is completely divisible by 45, 60 and 72.
So, N + 12 should be the multiple of 45, 60 and 72
LCM (45, 60, 72) = 360
N + 12 = 360 k (k-integer)

N = 360 k – 12
Largest four digit number = 9999
Largest four digit number of the form 360k = 9720
Required number N = 9720 – 12 = 9708
Hence, option (c).

9. Two statements are given followed by a question:

S1: X + Y is a two digit number greater than 50.
S2: Y is a two digit number.
Question: What is the value of prime number X?

Which of the following is correct in respect to the above statements and the questions?
(a) S1 alone is sufficient to answer the question.
(b) S2 alone is sufficient to answer the question.
(c) S1 and S2 together are sufficient to answer the question but neither S1 nor S2 alone is sufficient to answer the question.
(d) S1 and S2 together are not sufficient to answer the question

Correct Answer: (d)
Solution: On the basis of the information given in the two statements, we cannot find unique value of X.
Answer is (d)

10. The difference between a two-digit number and the number obtained by interchanging the digits is 36. What is the difference between the sum and the difference of the digits of the number if the ratio between the digits of the number is 1:2?

(a) 4
(b) 8
(c) 16
(d) None of these

Correct Answer: (b)
Solution: Since the number is greater than the number obtained on reversing the digits, so the ten's digit is greater than the unit's digit.
Let ten's and unit's digits be 2x and x respectively.
Then, (10 × 2x + x) - (10x + 2x) = 36
9x = 36
x = 4.
Required difference = (2x + x) - (2x - x) = 2x = 8.

11. How many zeros are there at end of the following product?
$1^1 \times 2^2 \times 3^3 \times 4^4 \times 5^5 \times 6^6 \times 7^7 \times 8^8 \times 9^9$ = ?

(a) 3
(b) 4
(c) 5
(d) 6

Correct Answer: (c)
Solution: In order to make 10, we require 2 × 5.
There are many 2s **(**2^2, 4^4, 6^6, 8^8**)** in the series but 5 are only 5(5^5). So, the number of zeros will be only 5.

12. How many pairs of natural numbers are there so that difference of their squares is 60?

(a) 4
(b) 3
(c) 2
(d) 1

Correct Answer: (c)
Solution: Let the numbers be x and y then $x^2 - y^2 = 60$ ---(1)
or $(x - y)(x + y) = 60$ ---(2)
Factors of 60:
5 × 12
2 × 30
4 × 15
1 × 60
3 × 20
6 × 10
We go for even pairs (2, 30) and (6, 10) since even-odd pair won't satisfy condition (2)
checking even pairs in condition(1)
$x - y = 2$, $x + y = 30 \rightarrow x = 16, y = 14$
& $x - y = 6$, $x + y = 10 \rightarrow x = 8, y = 2$
Hence, only 2 sets of Natural numbers.

13. If the ratio of number of boys and girls in a school of 1200 students is 5 : 3. How many more girls should be joined to make the ratio 1 : 1?

(a) 200
(b) 300
(c) 120
(d) 150

Correct Answer: (b)
Solution: Given,
Total Students = 1200
Boys : Girls = 5 : 3
Required ratio = 1 : 1
Ratio and its types

Let the number of original number of boys and girls in the school be 5x and 3x
According to the question:
5x + 3x = 1200
8x = 1200
x = 150
5x = 5 × 150 = 750
3x = 3 × 150 = 450
Let the number of girls joined be y
Now, new ratio:
750/(450+y) =1/1
750 = 450 + y
y = 300
Therefore, number of girls added was 300.

14. What is the Smallest Number that should be added (or subtracted) to 89355 to make it divisible by 9?

(a) 3
(b) 4
(c) 5
(d) 6

Correct Answer: (a)
Solution: We know that a number is divisible by 9 only when all the number sum up to be multiple of 9.
Now let's add all the number to check whether this number is divisible by 9 or not.
8 + 9 + 3 + 5 + 5 = 30
Now we can either add 6 or we can minus 3 in both the cases, the number will be divisible by 9.
As the question demands us to find the smallest number then the answer should be to subtract 3.
Hence, option (a).

15. There are two vessels A and B in which the ratio of milk and water are as 5:2 and 8:7 respectively. 14 gallons are drawn from vessel A and 15 gallons from vessel B, and are mixed in another empty vessel. What is the ratio of milk and water in it?

(a) 13 : 9
(b) 13 : 11
(c) 2 : 1
(d) 18 : 11

Correct Answer: (d)
Solution: Vessel A contains:
10 gallons milk + 4 gallons water
Vessel B contains:
8 gallons milk + 7 gallons water
Contents in the final Vessel:

18 gallons milk + 11 gallons of water.
Therefore, final ratio =18:11

16. Two numbers are 4/5th & 7/10th of a third number. By how much percent the second number must be increased to make it equal to first number?

(a) 13.28%
(b) 14.28%
(c) 14.48%
(d) 14.44%

Correct Answer: (b)
Solution: Given, Two numbers are 4/5th & 7/10th of a third number.
Let the numbers be A, B & C
According to the question
A = 4/5 of C or A : C = 4 : 5
B = 7/10 of C or B : C = 7 : 10
Hence, ratio of the three numbers A : B : C = 8 : 7 : 10.
% increment required = (8−7)/7× 100 = 14.28 %

(Or) Let C = 100 , then B = 70 and A = 80
% increase = (80−70)/70 × 100 = 14.28 %

17. What is the average of all the multiples of 5 from 1 to 55, including 55?

(a) 25
(b) 35
(c) 30
(d) 27.5

Correct Answer: (c)
Solution: All multiples of 5 are = 5, 10, 15, 20, 25,…… 50, 55
Average = (5 + 10 + 15 + 20 + 25 + ……. 50 + 55)/11 = 330/11 = 30
Hence, option (c).

18. A grocer professes to sell item at a profit of 10 % & uses weight which are 20% less than the market weight, the total gain earned by him will be?

(a) 30**%**
(b) 35%
(c) 37.5%
(d) None of these

Correct Answer: (c)
Solution: Suppose he bought 1000g at Rs 1000.
Now when he sells he says makes Rs 1100 against 800 grams.
Now Cost of 800g = Rs 800.

So, Profit = Rs 300.
% Profit = (300/800)*100 = (300/8)% =**37.5%**
Answer is (c).

19. The average age of three brothers is 6 years. If their ages are in the ratio of 1 : 2 : 3, find the age of youngest brother.

(a) 4 years
(b) 5 years
(c) 2 years
(d) 3 years

Correct Answer: (d)
Solution: Given,
Number of observation: 3
Ratio of ages = 1 : 2 : 3
Average = (sum of the observation)/total number of the observation
Let the ages is x, 2x and 3x respectively.
Average = (x + 2x + 3x)/3
⇒ 6 = 6x/3
⇒ x = 3 years.
∴ The age of youngest brother is 3 years.

20. In a shop, a number of desktops are 25% more than the number of laptops. Number of mobiles are 20% more than the number of desktops. If there are 6000 Total count of electronics items including laptops, desktops and mobiles, find the number of laptops in a shop.

(a) 1850
(b) 2000
(c) 2790
(d) 1600

Correct Answer: (d)
Solution: Given,
Total number of electronics items = 6000
Number of desktops are 25% more than the number of laptops.
Number of mobiles are 20% more than the number of desktops.
Let number of laptops be N.
Number of desktops = N + N × 25/100 = 5N/4
Number of mobiles = 5N/4 + 5N/4 × 20/100 = 3N/2
Given,
⇒ 6000 = N + 5N/4 + 3N/2
⇒ 6000 × 4 = 15N
⇒ N = 1600
∴ Number of laptops = 1600

21. Direction: What should come in place of question mark (?) in the following question?

9837 + 315 × 6 = (?) + 77 × 13 + 10% of 1500

(a) 10296
(b) 10386
(c) 10576
(d) 10666

Correct Answer: (c)
Solution: According to the BODMAS rule, the priority in which the operations should be done is:

Operations	Symbols
B-Bracket	()
O-Of	**Of**
D-Division	÷, /
M-Multiplication	×
A-Addition	+
S-Subtraction	-

⇒ 9837 + 315 × 6 = (?) + 77 × 13 + 10% of 1500

⇒ 9837 + 1890 – 1001 - 150 = (?)

=> **10576**

22. If today is Monday, what day will be 128 days after today?

(a) Tuesday
(b) Wednesday
(c) Saturday
(d) Monday

Correct Answer: (b)
Solution:
128 days is 126 days (18 weeks) + 2 odd days.

2 odd days after Monday is Wednesday.

Hence, Wednesday is the correct answer.

23. The multiplication of Kishan's age before 3 years and after 6 years is 486. Find out the average of 5 years back age and age of Kishan after 5 years.

(a) 20 years
(b) 21 years
(c) 25 years
(d) 22 years

Correct Answer: (b)
Solution: Given,
⇒ Multiplication of age before 3 years and after 6 years is 486.
⇒ The average of 5 years back age and age of Kishan after 5 years is Kishan's current age.
⇒ Let, the current age of Kishan be x years.
⇒ So, the age before 3 years will be (x – 3)years.
⇒ And, age after 6 years will be (x + 6) years.
⇒ (x – 3) X (x +6) = 486
⇒ x^2 + 6x - 3x – 18 = 486
⇒ x^2 + 3x = 504
⇒ x^2 + 24x – 21x – 504 = 0
⇒ x(x + 24) – 21(x +24) = 0
⇒ (x + 24)(x – 21) = 0
⇒ Either, x + 24 = 0 or x – 21 = 0
⇒ x = -24 or x = 21 years
⇒ Age never can be a negative number so, Present age of Kishan is 21 years.
∴ The average of Kishan's 5 year back and age after 5 year is 21 years.

24. What value should come in place of 'x' in the following question?

√6889 - √2116 + √2704 ÷ √676 × 3 = x

(a) 45
(b) 43
(c) 54
(d) 55

Correct Answer: (b)
Solution: Follow BODMAS rule to solve this question, as per the order given below:
√6889 - √2116 + √2704 ÷ √676 × 3 = x
⇒ 83 – 46 + 52/26 × 3 = x
⇒ 37 + 6 = x
⇒ 43 = x
∴ Value of x is 43

25. Salaries of Ravi and Sumit are in the ratio 2 : 3. If the salary of each is increased by ₹3000, the new ratio becomes 35 : 50. What is Sumit's new salary?

(a) ₹18,000
(b) ₹21,000
(c) ₹27,000
(d) ₹30,000

Correct Answer: (d)
Solution: Given,
Ratio of Ravi and Sumit salaries is 2 : 3
Their new ratio becomes 35 : 50 after salary of each is increased by ₹3000
Let the salary of Ravi = 2x
Let the salary of Sumit = 3x
Now according to the question
(salary of Ravi + 3000) : (Salary of Sumit + 3000) = 35 : 50
(2x + 3000) : (3x + 3000) = 7 : 10
(2x + 3000)/(3x + 3000) = 7/10
⇒ **x = 9000 rupees**
Sumit' salary = 3x = 27000
Sumit's new salary = 27000 + 3000 = 30000 rupees
∴ Sumit's new salary will be Rs 30000

26. Ram answered 24 out of the first 40 questions correctly. Of the remaining questions, he marked 3/4th correctly. Each question carries equal marks and there is no deduction for the wrong answer. If he gets 70% marks, then the number of the questions in an exam is –

(a) 180
(b) 100
(c) 120
(d) 300

Correct Answer: (c)
Solution:
Let the number of the questions in an exam be M.
Total correct questions out of the first 40 = 24
Total remaining correct questions in the remaining questions = 3/4 × (M – 40)
According to the question,
⇒ 24 + 3/4 × (M – 40) = 70/100 × M
⇒ 24 + 3M/4 – 30 = 7M/10
⇒ 960 + 30M – 1200 = 28M
⇒ M = 120
Total number of the questions in the exam is 120.

27. What was the day of the week on 15 August 2013?

(a) Thursday
(b) Tuesday

(c) Wednesday
(d) Monday

Correct Answer: (a)
Solution:
We'll divide 2013 in different years.
2000 years + 12 years + 2013 (Jan + Feb + March + April + May + June + July + till 15 august)
There are 3 leap years and 9 non-leap years from 2001 to 2012. Therefore, no. of odd days in this period = 1
Also, 2013 is a non-leap year.
Thus, odd days in the given above years = [0 + 1 + (3 + 0 + 3 + 2 + 3 + 2 + 3 + 1)]
Total odd days = 18 and 18 ÷ 7 = 4 (remainder)
Days codes:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	1	2	3	4	5	6

Code 4 is for Thursday.
Hence, "Thursday" is the correct answer.

28. Samson spends 60% of his monthly salary and saves the remaining amount. His salary increased by 25% this month and he increased his spending by 20% . By what percentage will his savings increase?

(a) 28.5
(b) 45.5
(c) 34
(d) 32.5

Correct Answer: (d)
Solution: Let Samson's salary which he got last month be 100
He spent 60% (60% of 100)
$\therefore$ His saving's = 100 – 60 = 40
Samson's salary this month after 25% increase = 1.25 × 100 = 125
(since, 1 + 25%of 1 = 1 + 25/100 = 1.25)
Expenditure this month = 1.20 × 60 = 72
Savings this month = 125 – 72 = 53
Percentage increase in savings = (53 – 40) /40 × 100 = 32.5%

29. The value of $(0.00032)^{0.6}$ is

(a) 0.08
(b) 0.008
(c) 0.8
(d) 8

Correct Answer: (b)
Solution: The given expression,
$\Rightarrow (0.00032)^{0.6}$
$\Rightarrow (32 \times 10^{-5})^{0.6}$
$\Rightarrow (2^5 \times 10^{-5})^{0.6}$
$\Rightarrow (2 \times 10^{-1})^{5 \times 0.6}$
$\Rightarrow 2^3 \times 10^{-3}$
$\therefore$ required value = 0.008

30. In a group of 15 people; 7 can read French, 8 can read English while 3 of them can read neither of these two languages. The number of people who can read exactly one language is

(a) 10
(b) 9
(c) 5
(d) 4

Correct Answer: (b)
Solution: n(A U B) = n(A) + n(B) - n(A ∩ B)
Total no. of people = 15
No. of people who neither read French nor English = 3
No. of people who read at least one language = 15 - 3 = 12 = n(A U B)
No. of people who can read French = 7 = n(A)
No. of people who can read English = 8 = n(B)
n(A ∩ b) is no. of people who speak both languages
Therefore,
12 = 7 + 8 - n(A ∩ b)
n(A ∩ b) = 3
Therefore, no. of people who speak both languages = 3
No. of people who read only French = 7 - 3 = 4
No. of people who read only English = 8 - 3 = 5
No. of people who read exactly one language = 4 + 5 = 9
Hence, 9 is the correct answer.