30 IMPORTANT QUESTIUONS

1. Pete the pilot flew 28 times last month. If 21 of his flights were at night, how many of his flights were not at night?

(A) 7 (B) 14

(C) 21 (D) 28

Ans. A

Pete the pilot flew 28 times last month.
If 21 of his flights were at night, then
28 − 21 = 7 flights were not at night.

2. The sum 12 + 34 + 56 equals each of the following *except*

(A) 38 + 64 (B) 25+ 90

(C) 24 + 89 (D) 46 + 68

Ans. D

The sum 12 + 34 + 56 equals each of the following *except* choice D.

3. If I double the number of pens in my backpack and add 5, I get 23.

How many pens do I have in my backpack?

(A) 9 (B) 23

(C) 45 (D) 54

Ans. A

If I double the number of pens in my backpack and add 5, I get 23.

Subtract 5 and divide by 2 to get $(23 - 5) \div 2 = 9$.

4. $65 - (43 + 21) = (65 - 43) -$ _____

(A) 9 (B) 15

(C) 21 (D) 26

Ans. C

Distribute subtraction over addition: $65 - (43 + 21) = (65 - 43) - 21$.

5. Each day last week I counted 50% more leaves than I had counted the day before. If I counted 2430 leaves last Friday, how many had I counted the Sunday before that Friday?

(A) 80 (B) 280

(C) 340 (D) 320

Ans. D

Working backwards, I counted 2/3 the number of leaves on each previous day. So on Sunday, I counted $(2/3)5 \times 2430 = 320$ leaves.

6. Wednesday is five days after my party. On what day is my party?

(A) Friday (B) Saturday

(C) Sunday (D) Thursday

Ans. A

Five days before Wednesday is Friday.

7. Which of the following is the sum of two prime numbers?

(A) 22 (B) 25

(C) 28 (D) 31

Ans. D

Since each choice is odd, 2 must be one of the addends.

8. Each of my shoes weighs the same. If 2 of my shoes weigh 12 kg together, then the total weight of 12 of my shoes is

(A) 14 kg (B) 18 kg

(C) 24 kg (D) 72 kg

Ans. D

Each of my shoes weighs the same. If 2 of my shoes weigh 12 kg together, then the total weight of 12 of my shoes is 6×12 kg = 72 kg.

9. $25 \times 25 = 5 \times 5 \times$ _____

(A) 15 (B) 20

(C) 30 (D) 25

Ans. D

$25 \times 25 = 5 \times 5 \times 25$.

10. (Six dozen) + (one dozen pairs) = _____ sets of three

(A) 16 (B) 32

(C) 64 (D) 128

Ans. B

(6 × 12) + (12 × 2) = 96 = 32 × 3.

11. When Giggles the Clown correctly counts the dots on his costume in groups of 4, there are 3 left over.

There could be _____ dots all together.

(A) 31 (B) 28

(C) 35 (D) 25

Ans. A

Since 31 divided by 4 has a remainder of 3,

Giggles the Clown could have a total of 31 dots on his costume.

12. What time is 420 minutes before 4 P.M.?

(A) 6:00 A.M. (B) 8:00 A.M.

(C) 9:00 A.M. (D) 10:0 A.M.

Ans. C

420 minutes = 7 hrs.; 7 hrs. before 4 P.M. is 9 A.M.

13. 10 hundreds + 10 tens + 10 ones =

(A) 101 (B) 1001

(C) 1 110 (D) 10001

Ans. C

(10 x 100) + (10 x 10) + 10 = 1110.

14. Professor Quack had 7 more students this year than he had last year. If he had a total of 43 students in both years combined, how many students did he have this year?

(A) 20 (B) 25
(C) 30 (D) 35

Ans. B

Professor Quack had 7 more students this year than he had last year. Subtract 7 from each choice and then add the result to that choice to see if you get 43: (25 − 7) + 25 = 43.

15. Altogether, 27 trapezoids have the same number of sides as _____ triangles.

(A) 6 (B) 12
(C) 63 (D) 36

Ans. D

In all, 27 trapezoids have 4 × 27 sides = 108 sides = 3 × 36 sides, the same number as in 36 triangles.

16. In my garden, I have 6 roses for every 5 daisies, and those are the only flowers I have. If I have 66 flowers, how many of them are roses?

(A) 18 (B) 27

(C) 45 (D) 36

Ans. D

There are 6 roses for every 5 daisies in my garden, so 6/(6 + 5) = 6/11 of the 66 flowers I have are roses. Thus, 6/11 × 66 = 36 are roses.

17. The sum of two different odd numbers and an even number could be

(A) 52 (B) 25

(C) 89 (D) 93

Ans. A

The sum of two different odd numbers and an even number must be even.

18. On a Sunday I put two rabbits in a cage. If the number of rabbits in the cage doubled every day, on what day did the cage first have more than 100 rabbits in it?

(A) Monday (B) Wednesday

(C) Saturday (D) Tuesday

Ans. C

On a Sunday I put two rabbits in a cage. If the number of rabbits in the cage doubled every day, then I had 4 rabbits, 8 rabbits, 16 rabbits, 32 rabbits, 64 rabbits, 128 rabbits, ….

19. A pomegranate costs 4 times as much as a pawpaw. If one pomegranate costs 50paise more than 2 pawpaws, then the pomegranate costs

(A) 5paise (B) 25paise

(C) ` 1 (D) `2.50

Ans. C

A pomegranate costs as much as 4 pawpaws. If 1 pomegranate costs 50paise more than 2 pawpaws, then 2 pawpaws cost 50paise and 4 cost ` 1.

20. If I triple _____ and divide the result by 6, the quotient is 18.

(A) 32 (B) 36

(C) 63 (D) 64

Ans. B

Work backwards: $6 \times 18 = 108$; $108 \div 3 = 36$.

21. $11 + 12 + 13 + 14 + 15 + 16 = 11 + 22 + 33 + 44 + 55 + 66 -$ _____

(A) 130 (B) 140

(C) 150 (D) 160

Ans. C

The given sum

$= 11 + (12+10) + (13+20) + (14+30) + (15+40) + (16+50) - 150.$

22. If Bob jumps 15 additional times, the total number of his jumps will be 3 times what it was 3 jumps ago.

Bob has jumped _____ times all together.

(A) 12 (B) 14

(C) 16 (D) 22

Ans. A

Add 15 to each choice, divide by 3, and add 3 jumps.

If the result is the same as the choice, then it's correct. Was 3 jumps ago.

Since (12 + 15) ÷ 3 + 3 = 12, choice A is correct.

23. Of my books, 85% are new and the rest are used.

Some are biographies, 70% of which are new. What is the ratio of the fraction of new books that are biographies to the fraction of used books that are biographies?

(A) 7:17 (B) 21:17

(C) 18:17 (D) 15:17

Ans. A

The ratio of the fraction of new books that are biographies to the fraction of used books that are biographies is (0.7/0.85): (0.3/0.15). This is equivalent to (7/85): (3/15) = (7/85): (17/85). This simplifies to 7: 17.

24. How many numbers between 1 and 100 are equal to 5 times an odd number?

(A) 8 (B) 10

(C) 12 (D) 14

Ans. B

Any odd multiple of 5 has a ones digit of 5. The numbers are 5, 15, 25, . . . , 85, 95. There are 10.

25. The sum of the remainders of 123 ÷4, 234 ÷5, and 345 ÷2 is

(A) 4 (B) 16

(C) 8 (D) 20

Ans. C

The remainders are 3, 4, and 1; their sum is 8.

26. If Marlon the mailman had sunny weather on exactly 12 of 30 days last month, on what percent of days was the weather *not* sunny?

(A) 30% (B) 50%

(C) 60% (D) 70%

Ans. C

There was sunny weather on 12 of 30 days last month; then on 18 days the weather was not sunny. Since 18 ÷30 = 0.6, that's 60%.

27. Last month I spent `24 on magnets that cost 80paiseeach, and this month I spent `24 on magnets that cost `1.20 each. The average cost per magnet was

(A) ` 0.78 (B) ` 0.96

(C) ` 2.00 (D) ` 2.96

Ans. B

Since `24 ÷`0.80 = 30 and `24 ÷`1.20 = 20, I bought 50 magnets for `48. Thus, the average cost per magnet was `48 ÷50 = `0.96.

28. On a number line, _____ is the same distance from 1.75 as it is from 7.25.

(A) 4.25 (B) 4.75

(C) 5.5 (D) 4.5

Ans. D

The average of 1.75 and 7.25 is equidistant from them. The average is (1.75 + 7.25) ÷2 = 4.5.

29. $2^3 \times 3^4 \times 4^5 \times 6^7 \times 9^{10} =$

(A) $2^{15} \times 3^{21}$

(B) $2^{20} \times 3^{31}$

(C) $2^{15} \times 3^{40}$

(D) $2^{105} \times 3^{280}$

Ans. B

$2^3 \times 3^4 \times 4^5 \times 6^7 \times 9^{10} = 2^3 \times 3^4 \times 2^{10} \times (2^7 \times 3^7) \times 3^{20} = 2^{3+10+7} \times 3^{4+7+20}$.

30. At the start of my temporary job, I needed to load an average of 120 boxes a day in order to finish my job on time. At first I loaded 90 boxes a day. I then had 6 days left to load the remaining 1200 boxes. How many days did I have in all for this temporary job?

(A) 12 (B) 32

(C) 22 (D) 42

Ans. C

Each day I loaded 90 boxes instead of 120, I was 30 boxes short. If I were on schedule, I would need to load 720 boxes the last 6 days. I had to load 480 extra boxes. Since 480 ÷ 30 = 16, I had 16 + 6 = 22 days to finish this temporary job.