
8. The value of $\frac{2}{3} + \frac{2}{9} \times \frac{3}{4}$ is

(A) $\frac{5}{9}$

(B) $\frac{2}{3}$

(C) $\frac{5}{6}$

(D) 1

(E) $\frac{4}{3}$

9. A crate filled with empty bottles weighs 2 kg. The empty crate weighs 1.6 kg less than the bottles. How much does the empty crate weigh?

(A) 200 g

(B) 300 g

(C) 400 g

(D) 1.6 kg

(E) 1.8 kg

10. How many different numbers can be constructed using the digits 0, 1, 2, 2? All of the digits must be used each time and no number can begin with 0.

(A) 6

(B) 9

(C) 12

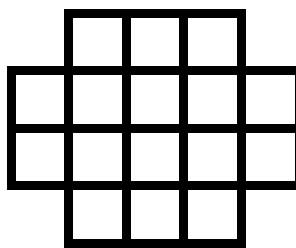
(D) 15

(E) 24

Part B

11. At 9:00 A.M. Paul starts driving from Alphaville to Betaburg at 40 km/hour. Sometime later, Nabil leaves Betaburg and drives at 60 km/hour. They meet at the half-way point between the cities at 1:00 P.M. At what time did Nabil start driving?
- (A) 10:00 AM (B) 10:40 AM (C) 11:00AM (D) 11:20AM (E) None of these
-
12. Roman, Bob and Roger buy red and green marbles. Red and green marbles don't have the same price. Roman pays 70 ¢ for four red marbles and two green marbles. Bob pays 95 ¢ for two red marbles and five green marbles. How much will Roger pay if he buys one red marble and one green marble?
- (A) 5 ¢ (B) 10 ¢ (C) 20 ¢ (D) 25 ¢ (E) 27 ¢
-
13. Find the value of x if $\frac{19}{5} = 1 + \frac{x}{1 + \frac{2}{1 + \frac{3}{1 + \frac{4}{1}}}}$
- (A) 3 (B) 4 (C) 5 (D) 6 (E) 8
-
14. You throw two dice, one having 10 sides, labelled 1, 2, 3, ..., 10 and the other having 8 sides, labelled 1, 2, 3, ..., 8. In how many ways can you obtain a sum of 10?
- (A) 8 (B) 9 (C) 10 (D) 18 (E) 80
-
15. In a fenced yard live rabbits and chickens. If you look over the fence, you can count 10 heads. If you look under the fence, you can count 28 legs. How many rabbits are there in this yard?
- (A) 3 (B) 4 (C) 5 (D) 6 (E) None of these
-
16. The sum of all of the integers from 1 to 30 is 465. The sum of all of the integers from 1 to 30 that are divisible by 3 is
- (A) 135 (B) 155 (C) 156 (D) 165 (E) None of these
-

17. How many squares can be found in the figure shown? The figure is constructed from 16 small squares each having side lengths of 1.



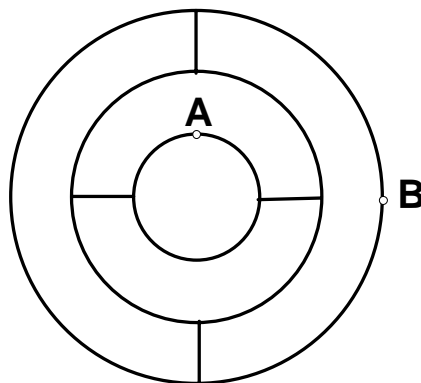
- (A) 20 (B) 24 (C) 25 (D) 26 (E) 27

18. What is the value of the number in the box labelled A? Each of the empty spaces contains a number.

				Total
		A	4	20
		4	9	
	8			13
Total	24		16	55

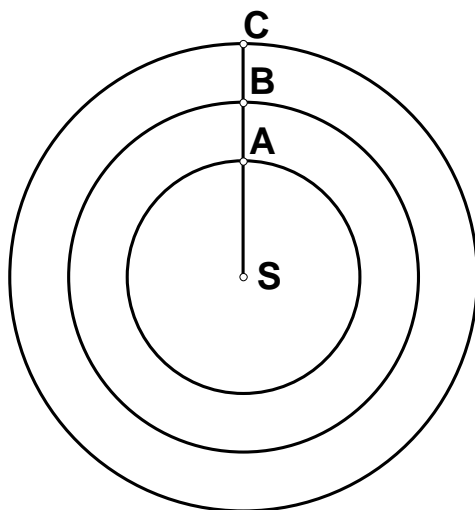
- (A) 5 (B) 6 (C) 7 (D) 8 (E) 9

19. How many different paths are there between A and B? Each path must travel arcs of the circle only in a clockwise direction. On the straight line segments, the path can go only from a smaller circle to a larger circle. No arc or line segment can be travelled more than once in the same path.



- (A) 4 (B) 5 (C) 6 (D) 7 (E) 10

20. Three planets are in straight line as in the diagram below. Planet A makes a complete revolution around the Sun S in 2 years. Planet B makes its revolution in 4 years and Planet C in 6 years. What is the least number of years before all three planets will once again be on the same line?



- (A) 6 years (B) 8 years (C) 9 years (D) 12 years (E) 24 years
-

Part C

21. What is the next number in the sequence 1, 2, 3, 4, 6, 9, 13, 19, 28, ...?

- (A) 37 (B) 39 (C) 41 (D) 43 (E) 47

22. Using coins with values of 1¢, 5¢, 10¢ and 25¢, what is the smallest number of coins needed to be able to exactly make each total from 1¢ to \$1.00?

- (A) 10 (B) 11 (C) 12 (D) 15 (E) None of these

23. Find the value of $(1 + \frac{1}{1}) \times (1 + \frac{1}{2}) \times (1 + \frac{1}{3}) \times (1 + \frac{1}{4}) \times \dots \times (1 + \frac{1}{2004})$

- (A) 0 (B) 2004 (C) 2005 (D) 4008 (E) None of these

24. Find the largest number among these :

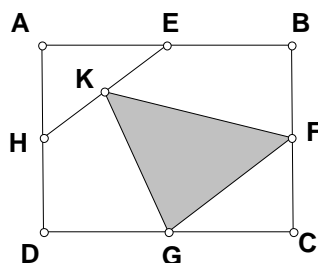
- (A) 2^{2004} (B) 2004^2 (C) 2000^4 (D) 4^{2000} (E) $2 \times 4 \times 2000 \times 2004$

25. You are given a set of three numbers. If the numbers are added together two at a time, the sums are 23, 32 and 39. What is the sum of the three numbers?

- (A) 44 (B) 47 (C) 50 (D) 94 (E) None of these

26. E, F, G and H are the midpoints of the sides of rectangle ABCD and K is the midpoint of segment HE.

If the rectangle ABCD has an area of 12 m^2 , what is the area of the triangle KFG ?



- (A) 2m^2 (B) 3m^2 (C) 4m^2 (D) 6m^2 (E) Not enough information