
Part A

1. Find the value of x if $3x + 1 = 5 - x$
- (A) 1 (B) $\frac{3}{2}$ (C) 2 (D) 3 (E) None of these
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2. The value of $29 \cdot 71 + 29^2$ is
- (A) 1290 (B) 2900 (C) 7100 (D) 7129 (E) None of these
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3. The difference between two positive numbers is 5 and their product is 24. The sum of these two numbers is
- (A) 4 (B) 11 (C) 19 (D) 29 (E) Not enough information
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4. Paul played 12 games against Maureen and won $\frac{1}{3}$ of them. He then played 10 games against Daryl and won 60% of them. How many games did Paul win altogether?
- (A) 8 (B) 10 (C) 12 (D) 14 (E) None of these
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5. Ahcène and Nabil are counting pennies. Counting the pennies by threes, Ahcène finds that two are left out at the end. Counting the same pennies by fours, Nabil also finds that two are left at the end. Among the following numbers, which one can possibly be the number of pennies?
- (A) 11 (B) 12 (C) 13 (D) 14 (E) None of these
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6. A cell phone company offers three different contracts. The basic contract costs \$40 a month. The advanced contract cost 50% more then the basic one. The professional contract costs 25% more then the advanced contract. What is the monthly price of the professional contract?
- (A) \$55 (B) \$60 (C) \$65 (D) \$70 (E) \$75
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7. The sum of n different positive integers is less than 35. The greatest possible value of n is
- (A) 4 (B) 5 (C) 6 (D) 7 (E) None of these
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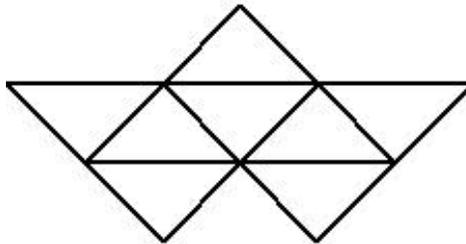
8. There are 36 students in a class. The ratio of boys to girls is 4 : 5. How many girls are in the class?

- (A) 15 (B) 16 (C) 20 (D) 24 (E) 25
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9. Three planets revolving in the same direction around the same star are in a straight line with the star. The first planet completes one revolution in 4 years, the second one in 6 years and the third one in 9 years. In how many years will the three planets return to their current position?

- (A) 18 (B) 24 (C) 30 (D) 36 (E) 42
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10. How many triangles are there in the following diagram?



- (A) 9 (B) 11 (C) 12 (D) 15 (E) 18
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Part B

11. In a triangle, the angles are x , $3x$ and $5x$. Then x is equal to

- (A) 10° (B) 20° (C) 30° (D) 40° (E) 50°
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12. A bike has a large wheel and a small wheel. In order to cover a given distance, the large wheel makes 100 revolutions while the small wheel makes 150 revolutions. The large wheel has a circumference that is 1 m longer than the small wheel circumference. What is the length of the given distance?

- (A) 100 m (B) 200 m (C) 300 m (D) 400 m (E) 500 m
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13. There are 15 marbles in a box. They come in three colors: green, blue and red. There are seven times as many blue marbles as red marbles. How many green marbles are in the box?

- (A) 3 (B) 4 (C) 5 (D) 6 (E) 7
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14. Alice, Bernard and Carole are arranged in a line. If Alice cannot be in the middle, in how many ways can the kids be arranged?

- (A) 1 (B) 2 (C) 3 (D) 4 (E) 6
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15. In a test consisting of 15 multiple choice questions, four points are awarded for each correct answer, and two points are deducted for each wrong answer. Alex answered all the questions and scored 30. How many questions did he answer correctly?

- (A) 8 (B) 10 (C) 12 (D) 14 (E) 16
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16. Of the numbers below, which is the largest that could be the perimeter of some triangle of which two sides have lengths 4 and 5?

- (A) 13 (B) 15 (C) 17 (D) 19 (E) 21
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17. This year, my father's age is twice my age. Ten years ago my age was one-third the age of my father. The sum of our ages is:

- (A) 30 (B) 40 (C) 50 (D) 60 (E) 70
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18. John spent almost all his money in four stores. In each of these stores, he spent half of the money that he had going in plus \$1. At the end, he was left with \$1. How much money did John have at the beginning?

- (A) \$4 (B) \$10 (C) \$22 (D) \$46 (E) \$94
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19. One third of the birds in a cage are blue. Forty of the 60 females are blue, while 25% of the males are blue. How many birds are in the cage?

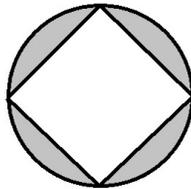
- (A) 60 (B) 120 (C) 180 (D) 240 (E) 300
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20. Jane has 5 chocolate bars, Karen has 3, and Amel doesn't have any. The three friends share them evenly. All the chocolate bars cost the same. Amel pays his friends a total of \$4.00 for his share. How much of the \$4.00 should go to Jane?
- (A) \$2.50 (B) \$2.75 (C) \$3 (D) \$3.25 (E) \$3.50
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Part C

21. Pierre wrote all the integers from one to 99. What is the sum of all the digits used to write down those integers? For instance, the sum of the digits used to write down 11, 12 and 13 is equal to nine.
- (A) 405 (B) 450 (C) 810 (D) 900 (E) None of these
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22. A square is inscribed in a circle of radius one. The area of the shaded region is



- (A) $\pi - 2$ (B) $\frac{\pi}{2}$ (C) $\pi - 1$ (D) $2\pi - 2$ (E) Not enough information
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23. In a fenced yard there are sheep, goats, and cows. If all these animals but four are sheep, all these animals but six are goats and all these animals but eight are cows, how many cows are there in this yard?

- (A) 1 (B) 3 (C) 5 (D) 9 (E) None of these
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24. A cyclist is traveling along a path consisting of three sections of the same length. In the first section, pedaling against the wind, he goes at 10 km/h. In the second section, going up a hill, he goes at 5 km/h. In the third section, he bikes downhill at 30 km/h. What is the average speed of this cyclist on the whole path?

- (A) 5 km/h (B) 9 km/h (C) 10 km/h (D) 15 km/h (E) 20 km/h
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25. In a village there are 100 houses. There is a dog in 90 houses, a cat in 80 houses, a rabbit in 75 houses and a turtle in 65 houses. Among those 100 houses, how many, at least, have a dog, a cat, a rabbit and a turtle?

- (A) 5 (B) 10 (C) 15 (D) 20 (E) None of these

26. Mark and Tom are playing with two six sided coloured dice. On each die the faces are painted blue or red. They throw both dice at once and Mark wins if the upper faces of the dice are of the same colour, while Tom wins if they are different colours. Each player has exactly the same chance to win. If the first die has one blue face and five red faces, how many red faces are there on the second die?

- (A) 1 (B) 2 (C) 3 (D) 4 (E) 5
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