For all questions, answer choice (E) NOTA means that none of the given answers for a question are correct. Figures are not drawn to scale. Good luck!

1. Reduce the fraction $\dfrac{16}{24}$ to simplest terms.

    (A) $\dfrac{8}{12}$ (B) $\dfrac{16}{24}$ (C) $\dfrac{4}{16}$ (D) $\dfrac{2}{3}$ (E) NOTA

2. Evaluate 2^4.

    (A) 2   (B) 4   (C) 6   (D) 16   (E) NOTA

3. Jimmy wants to make a fence around his house. He wants the length of the fence to be $2x$ and the width of the fence to be x, just like the figure below. If the total perimeter of the entire fence is 30, what is the width of the fence?

    (A) 5   (B) 6   (C) 7   (D) 3   (E) NOTA

4. Govind is learning about probability in his math class, but needs help with his homework. One of his homework problems asks, "If a fair coin is flipped two times, and it lands on tails each time, what is the probability that on the third flip, it will also land on tails?" Help Govind get an "A" and answer the question correctly for him!

    (A) $\dfrac{1}{2}$ (B) $\dfrac{1}{3}$ (C) $\dfrac{1}{4}$ (D) $\dfrac{1}{6}$ (E) NOTA

5. Alex is not very skilled at math, and unfortunately does not know how much money he will be discounted by using his 25%-off coupon on a $200 tennis racket. How much does the racket cost using the coupon?

   (A) $150   (B) $160   (C) $180   (D) $200   (E) NOTA

6. Phalguna was very hungry one day. On this day, McDonald's was having a sale on their Big Mac combos, they were only charging $6.32 for one Big Mac combo. Phalguna was so hungry that day, that he wanted 3 Big Mac combos. How much will Phalguna have to pay for his 3 Big Mac combos?

    (A) $10.24   (B) $6.32   (C) $18.96   (D) $25.32   (E) NOTA

7. If $2x + y = 20$, and $y = 4$, what is x?

    (A) 3   (B) 6   (C) 7   (D) 12   (E) NOTA

8. John went to the farm on a school field trip. He saw 3 dogs, 3 sheep, 7 chickens, and 1 horse at the farm. Assume that all animals on the farm have the normal amount of limbs. How many feet were on these 14 animals?

    (A) 10   (B) 12   (C) 19   (D) 34   (E) NOTA

9. Allishun is a horrible basketball player and only scored 100 points in 20 basketball games, how many points per game did she average?

    (A) 10   (B) 3   (C) 5   (D) 12   (E) NOTA

10. Evaluate, using the order of operations: $5 + 4 - \dfrac{3 \times 6}{2}$.

    (A) 1   (B) 5   (C) 2   (D) 0   (E) NOTA

11. An equilateral triangle has a side length of 6, what is the perimeter of the equilateral triangle?
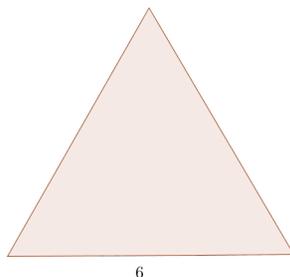
    (A) 6   (B) 12   (C) 4   (D) 18   (E) NOTA

12. Evaluate $3 \times 7 + \dfrac{2(6 \times 7)}{4}$. (Hint: The number is the meaning of life.)

    (A) 14   (B) 21   (C) 42   (D) 56   (E) NOTA

13. In the alien world of Zingzang, 2 eclogues can be traded for 4 rickracks, and 4 rickracks can be traded for 6 feckets. On Zingzang, I have 8 eclogues, but I want feckets. If I trade in all 8 eclogues, then how many feckets will I receive?

    (A) 24   (B) 18   (C) 12   (D) 6   (E) NOTA

14. Let S be the area of a square with side length 5, and let C be the area of a circle with radius 3. Find $\dfrac{C}{S}$.

    (A) $\dfrac{9}{25}\pi$ (B) $\dfrac{5}{3}\pi$ (C) $\dfrac{25}{9}\pi$ (D) $\dfrac{3}{5}\pi$ (E) NOTA

15. If the sum of 6 consecutive integers is 39, what is the first of the six integers?

    (A) 1   (B) 3   (C) 4   (D) 6   (E) NOTA

16. Alyssa is spreading butter on three pieces of toast. She spreads $\dfrac{2}{3}$ of an ounce on one piece, $\dfrac{4}{9}$ of an ounce on the second piece, and $\dfrac{1}{7}$ of an ounce on the third piece. How many ounces of butter did she spread in all?

    (A) $4\dfrac{63}{45}$ (B) $\dfrac{79}{63}$ (C) $\dfrac{33}{45}$ (D) $\dfrac{77}{63}$ (E) NOTA

17. A painting measures 2 meters by 2 meters. A frame shop charges $5.00 per meter for a wooden frame. If you only have quarters, how many quarters will you have to pay with?

    (A) 160   (B) 40   (C) 20   (D) 80   (E) NOTA

18. Mihir wants to dunk on a 10 foot hoop very badly; unfortunately, Mihir only has a standing reach of 7 feet 3 inches. How high does his vertical leap have to be to reach the rim?

    (A) 33 inches   (B) 32 inches   (C) 25 inches   (D) 21 inches   (E) NOTA

19. Pamela and Tony disagree about who is taller. Pamela is 64.8 inches, while Tony is 5 feet, 10 inches tall. Who is the taller of the two?

    (A) Pamela   (B) Tony   (C) They're the same height   (D) Not enough information   (E) NOTA

20. Matthew has been playing an online game, League of Legends, and is obsessed with it. He has played for 9000 hours. How many minutes of League of Legends has he played?

    (A) 5, 400   (B) 54, 000   (C) 540, 000   (D) 5, 400, 000   (E) NOTA

21. Annie has a problem with counting; she thinks there are 12 ways of arranging 3 different ties with 6 different shirts. What is the positive difference between Annie's answer and the real answer?

    (A) 18   (B) 4   (C) 6   (D) 3   (E) NOTA

22. If two numbers have a difference of 1 and their sum is 19, what are the two numbers?

    (A) 5 and 14   (B) 3 and 4   (C) 9 and 10   (D) 19 and 5   (E) NOTA

23. If a right triangle's side lengths are 6 and 8, what is the hypotenuse?(Hint: Use $a^2 + b^2 = c^2$)
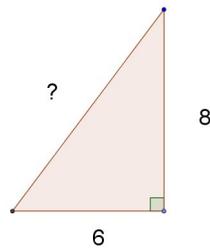
    (A) 10   (B) 12   (C) 15   (D) 2   (E) NOTA

24. Find the mean of the following set of numbers rounded to the nearest integer: $\{4, 5, 1, 6, 2, 8\}$.

    (A) 4   (B) 5   (C) 8   (D) 12   (E) NOTA

25. The product of A and B is 63 and it is also known that $A - B = 2$. Given that B is a positive number, what is B?

    (A) 5   (B) 3   (C) −9   (D) 7   (E) NOTA

26. Find the greatest common factor of 42 and 36.

    (A) 2   (B) 4   (C) 7   (D) 6   (E) NOTA

27. Kevin really wants a motorcycle, but his mother will not buy him one until the average crash rate decreases to 5%. According to the National Highway Traffic Safety Administration, the average rate for motorcycle crashes is 72.34 per 1000 registered motorcycles. How much must the rate drop by in order for Kevin to get a motorcycle?

    (A) 0.0223   (B) 0.02235   (C) 0.02234   (D) 0.02233   (E) NOTA

28. Stephen is planning a picnic. For the picnic, he can only buy paper plates in packages of 30, paper napkins in packages of 50, and paper cups in packages of 20. What is the least number of paper products he can buy, given that he buys the same amount of each product?

    (A) 600   (B) 450   (C) 900   (D) 300   (E) NOTA

29. If $a \star b = 5a + 6b$, evaluate $2 \star 3$.

    (A) 26   (B) 5   (C) 12   (D) 28   (E) NOTA

30. Evaluate 3^3.

    (A) 9   (B) 27   (C) 81   (D) 3   (E) NOTA