

Select (E) NOTA if none of the above answers are correct. Good luck!

- Evaluate  $1 + 3 - 2 \times 5 - (3 + 2)$ .  
(A)  $-11$  (B)  $-10$  (C)  $5$  (D)  $10$  (E) NOTA
- If 2 packages contain a total of 12 doughnuts, how many doughnuts are there in 5 packages?  
(A) 18 (B) 24 (C) 30 (D) 26 (E) NOTA
- Which of the following is equivalent to one third of  $7\frac{1}{2}$  hours?  
(A) 1 hr. 20 min. (B) 2 hr. 15 min. (C) 3 hr. 10 min. (D) 4 hr. 30 min. (E) NOTA
- One day Daniel decides to try out for the Spanish third division basketball team Rayet Guadalajara. The tryout form asks for his height in centimeters. Daniel is 6 ft tall. How tall is Daniel, in centimeters, using the approximation  $2.5 \text{ cm} = 1 \text{ in}$ ?  
(A) 15 (B) 72 (C) 360 (D) 180 (E) NOTA
- What is the sum of the first 8 prime numbers?  
(A) 17 (B) 19 (C) 59 (D) 77 (E) NOTA
- In a jar of red and green jelly beans, the ratio of green to red jelly beans is 5:3. If the jar contains a total of 160 jelly beans, how many more green jelly beans are there than red jelly beans?  
(A) 2 (B) 40 (C) 60 (D) 100 (E) NOTA
- Evaluate  $635 + 984 + 724 + 186$ .  
(A) 2521 (B) 2525 (C) 2529 (D) 2531 (E) NOTA
- If  $f(x) = 27x + 9$  find  $f(4)$ .  
(A) 117 (B) 90 (C) 118 (D) 107 (E) NOTA
- What is the greatest common factor of 39 and 18?  
(A) 3 (B) 6 (C) 12 (D) 18 (E) NOTA
- At a circus, only certain parties can enter. Each party has exactly two adults, two children, and a cat. If every child has a balloon with a smiley face on it, and every living thing at the circus is smiling, how many smiling faces are at the fair if there are 40 children there?  
(A) 140 (B) 160 (C) 280 (D) 320 (E) NOTA
- If  $X = 3$ ,  $Y = 6$ , and  $Z = 5$ , then evaluate  $5X - \left(3Y \times \frac{2Z}{2 - 4X}\right)$ .  
(A) 153 (B) 33 (C)  $-3$  (D)  $-87$  (E) NOTA
- A baseball team won 54 more games than it lost. If the team played a total of 154 games and there were no ties, how many games did the team win?  
(A) 50 (B) 98 (C) 100 (D) 104 (E) NOTA

13. How many prime factors does  $(2^4 - 2^2)$  have?  
(A) 12 (B) 8 (C) 4 (D) 3 (E) NOTA
14. Find the mean of the median and range of the following set of numbers: 15, 7, 19, 21.  
(A) 12.5 (B) 15.5 (C) 16.5 (D) 17 (E) NOTA
15. Solve for  $x$ , given that  $4x + 3(5 - 2x) - 3 = 15$   
(A)  $-3$  (B)  $\frac{-3}{2}$  (C) 0 (D)  $\frac{2}{3}$  (E) NOTA
16. Evaluate  $5 - (-4) - (3) - (-2) - 1 - (4) - (-7)$ .  
(A) 10 (B) 9 (C) 8 (D) 7 (E) NOTA
17. I visit a farm that has only cows and geese. (Assume all cows have two eyes and four legs and that all geese have two eyes and two legs). I count 54 eyes and 78 legs. How many cows do I see on this farm?  
(A) 4 (B) 8 (C) 12 (D) 16 (E) NOTA
18. How many quadrants does the line  $3x - 4y = 7$  pass through?  
(A) 1 (B) 2 (C) 3 (D) 4 (E) NOTA
19. There is a square with a side length of  $2n$ . Find the sum of its area and perimeter in terms of  $n$ .  
(A)  $4n^2 + 12n$  (B)  $4n^2 + 8n$  (C)  $18n$  (D)  $12n^2$  (E) NOTA
20. What is the sum of the square root of  $\frac{1}{4}$  and the square root of 16?  
(A)  $\frac{21}{2}$  (B)  $\frac{65}{4}$  (C)  $\frac{9}{2}$  (D)  $\frac{84}{16}$  (E) NOTA

*The next two questions, 21 and 22, are about the Iranian Volleyball Super League team Paykan Tehran.*

21. In the finals of the Iranian Volleyball Super League playoffs, the powerhouse Paykan Tehran defeated Saipa Alborz in two matches. In the first game, Paykan Tehran scored 111 total points and Saipa Alborz scored 107 total points. In the second game, Paykan Tehran scored 91 total points and Saipa Alborz scored 85 points. How many points did Paykan Tehran win by in the two combined games?  
(A) 7 points (B) 8 points (C) 9 points (D) 10 points (E) NOTA
22. After winning the Iranian Volleyball Super League, Paykan Tehran advanced to the 2011 Asian Men Club Volleyball Championship. Paykan Tehran defeated the Shanghai Tang Dynasty volleyball team in the semifinals by scoring a total of 75 points and giving up 59 points. However, Paykan Tehran earned 15 points out of their 75 points from Shanghai Tang Dynasty errors. What percent of Paykan Tehran's 75 points were from Shanghai Tang Dynasty errors?  
(A) 8% (B) 12% (C) 20% (D) 25% (E) NOTA
23. A point  $P(15, 17)$  is the midpoint of the line segment with endpoints  $(x, 8)$  and  $(12, y)$ . Find the sum  $x + y$ .  
(A) 9 (B) 18 (C) 26 (D) 44 (E) NOTA

24. You won the raffle at a fair. You will receive the prize money in 5 monthly payments. If each payment is half as much as the previous month's payment and the total of the payments is \$496, then what is the amount of the first payment?
- (A) \$256                      (B) \$96                      (C) \$84                      (D) \$16                      (E) NOTA
25. What is the  $x$ -intercept of the line  $2y = 4x - 3$ ?
- (A)  $-3$                       (B)  $\frac{-3}{2}$                       (C)  $\frac{-3}{4}$                       (D)  $\frac{3}{4}$                       (E) NOTA
26. Let the functions  $\otimes$  and  $\triangle$  be defined as  $a \otimes b = a - 2b + ab$  and  $a \triangle b = ab - a - b$ . Compute the value of  $7 \triangle (3 \triangle [2 \otimes 5])$ .
- (A)  $-5$                       (B)  $-1$                       (C)  $7$                       (D)  $9$                       (E) NOTA
27. The sum of four consecutive positive even integers is  $x$ . In terms of  $x$ , what is the sum of the second and third positive even integers?
- (A)  $\frac{x - 12}{4}$                       (B)  $\frac{x - 6}{12}$                       (C)  $\frac{x}{2}$                       (D)  $\frac{x^2 - 3x}{4}$                       (E) NOTA
28. Pamela can row a boat at a constant rate of 4 miles per hour in a calm river. If it takes her 18 minutes to row a distance upstream, and then 12 minutes going back the same distance, how fast is the river in miles per hour?
- (A) 1                      (B) 1.5                      (C) 2                      (D) 2.5                      (E) NOTA
29. If  $7 \times \sqrt{x} - 24 = 11$ , what is the value of  $x$ ?
- (A)  $\sqrt{\frac{1}{5}}$                       (B)  $\sqrt{7}$                       (C) 5                      (D) 25                      (E) NOTA
30. The units digit of a two digit number is 3 times the tens digit. When the digits are reversed, the resulting number is 36 more than the original number. What is the original number?
- (A) 26                      (B) 36                      (C) 39                      (D) 93                      (E) NOTA