

For all questions, answer choice (E) NOTA means that none of the given answers is correct. Figures are not necessarily drawn to scale. Good Luck!

1. If Ryan is trying to rent a tuxedo for 3 nights and it costs \$70.45 to rent a tuxedo for one night, how much will Ryan have to pay?  
(A) \$70.45                      (B) \$140.90                      (C) \$211.35                      (D) \$281.80                      (E) NOTA
2. Evaluate  $10 + 4 \div 2 - 3 \times (2^2 + 1)$ .  
(A) 10                              (B) -3                              (C) -10                              (D) -8                              (E) NOTA
3. Stephen is taking a 5th Grade Individual test at the Rickards Invitational, and manages to get 10 questions right, while getting 5 wrong and leaving the rest blank. What is his score? (Keep in mind that you get 5 points for a correct answer, 1 point for a blank, and 0 points for a wrong answer.)  
(A) 65                              (B) 55                              (C) 40                              (D) 35                              (E) NOTA
4. Grace, Jenny, Alex, and Hyun Jee are watching the Korean drama "Shark" together. Each episode lasts exactly 40 minutes. If they watch the episodes for 3 whole days without taking a break (don't try this at home) without any pause between episodes, how many episodes do they finish?  
(A) 36                              (B) 108                              (C) 120                              (D) 2160                              (E) NOTA
5. There are 24 units in the apartment building on 250 Bowery Street, and Fredrik has to sell all of them. Within the first day, he sells 18 units. What is the fraction, in simplest form, of all the units in the building that Fredrik still needs to sell?  
(A)  $\frac{1}{3}$                               (B)  $\frac{2}{3}$                               (C)  $\frac{3}{4}$                               (D)  $\frac{1}{4}$                               (E) NOTA
6. How many centimeters are in 3.14 kilometers?  
(A) 314                              (B) 3,140                              (C) 31,400                              (D) 314,000                              (E) NOTA
7. Evaluate  $1.6 \times 17 \div 2$ .  
(A) 13.6                              (B) 1.36                              (C) 27.2                              (D) 11.6                              (E) NOTA
8. Grace is very fashionable, so Hyun Jee wants to go shopping with her. They decide to go shopping together at Express and Urban Outfitters. A dress at Express costs \$85.95 and a jacket at Urban Outfitters costs \$105.99. If they start out with \$600 and buy 3 dresses from Express and two jackets from Urban Outfitters, how much money do they have left? (assume no sales tax)  
(A) \$489.87                      (B) \$469.83                      (C) \$130.17                      (D) \$110.13                      (E) NOTA
9. Alex is rather chubby, so he decides to go on a diet. If he has to lose 540 pounds in 15 days and loses the same amount every day, how many pounds does he have to lose in one week?  
(A) 36                              (B) 252                              (C) 63                              (D) 210                              (E) NOTA
10. The sum of 5 times a number, and 9, is 74. What is the value of this number?  
(A)  $\frac{37}{7}$                               (B) 13                              (C) 11                              (D) 15                              (E) NOTA
11. Ryan flips a fair coin. Given that he gets heads on the first flip, what is the probability that he gets heads again on the second flip?  
(A)  $\frac{1}{2}$                               (B)  $\frac{1}{4}$                               (C)  $\frac{1}{3}$                               (D)  $\frac{3}{4}$                               (E) NOTA

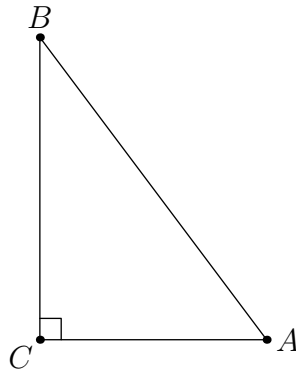
12. Simplify:  $\left(\frac{1}{7}\right)\left(\frac{28}{3}\right)\left(\frac{1}{8}\right)$
- (A)  $\frac{7}{24}$  (B)  $\frac{1}{7}$  (C)  $\frac{1}{3}$  (D)  $\frac{1}{6}$  (E) NOTA
13. Solve for  $x$ :  $2 \times (x + 3) - 5 = 33$
- (A) 9 (B) 11 (C) 16 (D) 19 (E) NOTA

**For problems 14-16, use the following information:**

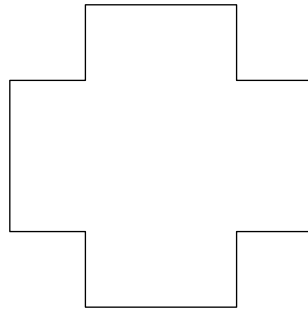
Mr. Harrington has a class with 8 students. One day, he gives out a 15-question test and 7 of the students got scores of 9, 7, 12, 9, 3, 1, 14.

14. If the 8th student got a perfect score of 15, what is the average score of the class?
- (A) 8.75 (B) 8.5 (C) 8 (D) 7.75 (E) NOTA
15. Mr. Harrington decides to pick a random student from his class. If the 8th student got a score of 7, what is the probability that the chosen student got at least 7 questions right?
- (A)  $\frac{3}{4}$  (B)  $\frac{5}{8}$  (C)  $\frac{1}{2}$  (D)  $\frac{1}{4}$  (E) NOTA
16. If the 8th student got a score of 15, what is the sum of the median and the mode of the students' scores?
- (A) 24 (B) 16 (C) 9 (D) 18 (E) NOTA
17. A box in the shape of a rectangular prism has a length of 40, a height of 20, and a width of 10. What is the surface area of the box?
- (A) 8000 (B) 1400 (C) 2800 (D) 70 (E) NOTA
18. Compute:  $1.3 \times 2.54$ .
- (A) 33.02 (B) 3.302 (C) 2.202 (D) 3.292 (E) NOTA
19. Alex has 5 different delicious cupcakes. Alex wants to eat 3 of the cupcakes. How many ways can he choose the 3 cupcakes to eat?
- (A) 10 (B) 6 (C) 8 (D) 5 (E) NOTA
20. Which of the following numbers is a prime?
- (A) 1 (B) 51 (C) 91 (D) 83 (E) NOTA
21. Siddarth and Abhi are playing a game. Siddarth writes down the fractions  $\frac{2}{5}$ ,  $\frac{3}{7}$ ,  $\frac{3}{8}$ , and  $\frac{5}{11}$  on a chalkboard. Abhi wins if he picks the largest fraction. Which fraction must Abhi pick to win?
- (A)  $\frac{2}{5}$  (B)  $\frac{3}{7}$  (C)  $\frac{3}{8}$  (D)  $\frac{5}{11}$  (E) NOTA
22. What is 10% of 90 plus 90% of 10?
- (A) 19 (B) 18 (C) 9 (D) 38 (E) NOTA
23. Let  $A$  be the perimeter of a regular pentagon where each side has length 3, and let  $B$  be the number of sides in an octagon. What is  $A \times B$ ?
- (A) 90 (B) 23 (C) 80 (D) 120 (E) NOTA

24. There is a right triangle  $\triangle ABC$ , with right angle at  $C$ . Alex is at point  $A$ , and Rohith is at point  $B$ . If  $AC$  has a length of 3 and  $BC$  has a length of 4, how far does Alex have to travel along  $AB$  to get to Rohith?  
 (A) 7 (B) 10 (C) 5 (D) 25 (E) NOTA



25. A  $4 \times 4$  square has the corners cut out in the shape of  $1 \times 1$  squares. How many more corners are there in the new figure than in the previous square?



- (A) 4 (B) 8 (C) 12 (D) 16 (E) NOTA
26. Let  $[x]$  be the function that gives you the integer closest to  $x$ . What is  $[1.3] + [2.4] - [1.3 + 2.4]$ ?  
 (A)  $-1$  (B) 0 (C) 1 (D) 2 (E) NOTA
27. Which of the following is equivalent to  $x^3 \times 3 \times y \times y \times 2x$ ?  
 (A)  $3x^2y^2$  (B)  $6x^4y^2$  (C)  $x^3 + 3 + 2y + 2x$  (D)  $6x^3y^2$  (E) NOTA
28. Govind goes to class from 7 : 30 am to 2 : 50 pm. How minutes is he in class?  
 (A) 720 (B) 7.5 (C) 440 (D) 500 (E) NOTA
29. Kevin is a Roman master and likes doing math problems in Roman, too. He decided to give to his Latin class the following problem: “What is  $XLVII + IX - XIV$ ?” Mrs. Youngblood, of course, got the answer right. What was her answer?  
 (A)  $VXII$  (B)  $XIII$  (C)  $XLII$  (D)  $XXXIII$  (E) NOTA
30. Let  $A$  be the number of times that the word “Alex” appears in this test. What is  $A \div 2$ ?  
 (A) 2 (B) 2.5 (C) 3 (D) 3.5 (E) NOTA