

For all questions, answer choice (E) NOTA means that none of the given answers is correct. Good Luck!

- Evaluate the following:  $2 \times 2 + 2 \times 2 + 2 \times 2 + 2 \times 2$   
(A) 16 (B) 60 (C) 64 (D) 24 (E) NOTA
- If Aditya wants to draw a circle that has an area of  $36\pi cm^2$ , what would the radius of that circle be?  
(A)  $12cm$  (B)  $4cm$  (C)  $6cm$  (D)  $8cm$  (E) NOTA
- If  $x + 12 = 16$  and  $3x - y = 2$ , then what is the value of  $y$ ?  
(A) 12 (B) 10 (C) 8 (D) 6 (E) NOTA
- If  $a \diamond b = 19b - 12a$ , evaluate  $4 \diamond 6$ ?  
(A) 64 (B) 66 (C) 4 (D) 2 (E) NOTA
- If Kyle jogs for 3 hours every day that starts with either a T or an S, then how many hours does he jog every week?  
(A) 6 (B) 8 (C) 10 (D) 12 (E) NOTA
- Evaluate  $5^4$ .  
(A) 500 (B) 125 (C) 2500 (D) 25 (E) NOTA
- If Chuck Bartowski wants to be a spy he must take a test and pass with at least 70% correct. If there are 40 questions on the test, how many questions must he answer correctly in order to become a spy?  
(A) 32 (B) 30 (C) 28 (D) 26 (E) NOTA
- If Bob wanted to buy a game that costs \$99.99, how much does he have to pay if tax is 7.25%?  
(A) \$107.24 (B) \$107.23 (C) \$107.22 (D) \$107.21 (E) NOTA
- Roehl has 300 pieces of chocolate. If he gives SpongeBob 30% of his chocolates and 30% of the remaining chocolates to Patrick, how many pieces of chocolate does Roehl have left?  
(A) 172 (B) 153 (C) 146 (D) 133 (E) NOTA
- If a certain type of cube weighs 13 pounds and a sphere weighs 8 pounds, then how much do 8 cubes and 13 spheres weigh all together?  
(A) 202 (B) 204 (C) 206 (D) 208 (E) NOTA
- If a quadrilateral has two angles measuring 105 and 89, then what is the measure in degrees of the other two angles if they are both equal? (*Hint: The sum of the angles of a quadrilateral is 360*)  
(A) 85 (B) 84 (C) 103 (D) 102 (E) NOTA
- Evaluate the following expression:  $(6^2 + 7^3) \times (1^{2014})$   
(A) 377 (B) 378 (C) 379 (D) 380 (E) NOTA
- What is sixty percent of ninety percent of 700?  
(A) 377 (B) 378 (C) 379 (D) 380 (E) NOTA

14. If a circle has a radius of 6, what is the ratio of the circumference to the area of the circle in simplest form?  
(A)  $\frac{\pi}{3}$  (B)  $\frac{12\pi}{36}$  (C)  $3\pi$  (D)  $\frac{36\pi}{12}$  (E) NOTA
15. If Ash can run 4 mph on dirt and can run 5 mph on the road, then how many miles will he have ran if he is on the dirt for 6 hours and on the road for 8 hours?  
(A) 64 miles (B) 62 miles (C) 68 miles (D) 66 miles (E) NOTA
16. One day, Shardul wanted to make a pot of curry. If he has the option of using three curry mixes, four types of spices, and three types of gravy, how many different types of curry can he make if he can use only one type of mix, one type of spice, and one type of gravy?  
(A) 30 (B) 32 (C) 34 (D) 36 (E) NOTA
17. What is the greatest common factor of 36, 12, and 24?  
(A) 2 (B) 3 (C) 6 (D) 12 (E) NOTA
18. How many quarters are needed to make change for a \$100?  
(A) 25 (B) 40 (C) 100 (D) 400 (E) NOTA
19. If the area of a certain square is 100, then what is the area of another square whose side length is half of the original?  
(A) 2,500 (B) 25 (C) 625 (D) 10,000 (E) NOTA
20. Solve for  $x$ :  $2x + 32 = 40$   
(A)  $-4$  (B) 4 (C)  $-2$  (D) 2 (E) NOTA
21. If a certain basketball team has won 12 games, how many games did that same team play if they won 40% of their games?  
(A) 30 (B) 28 (C) 26 (D) 24 (E) NOTA
22. If Malik can make a shot in basketball seventy percent of the time, then how many baskets is he expected to make if he takes seventy shots?  
(A) .49 (B) 4.9 (C) 49 (D) 490 (E) NOTA
23. If the perimeter of a rectangle is 30 and the length is four times the width, then what is the sum of the length and width of the given rectangle?  
(A) 12 (B) 13 (C) 14 (D) 15 (E) NOTA
24. How many different ways can six people stand in a straight line?  
(A) 480 (B) 720 (C) 1080 (D) 1440 (E) NOTA
25. Take the number of questions on this test. Then multiply it by 4, add 10, and divide the resulting number by 5.  
(A) 26 (B) 260 (C) 24 (D) 240 (E) NOTA
26. If the sum of 5 consecutive numbers is 450, find the positive difference between the first and last numbers.  
(A) 5 (B) 4 (C) 3 (D) 2 (E) NOTA

27. What is the diameter of a circle with an area of  $100\pi m^2$ ?
- (A)  $8m$                       (B)  $9m$                       (C)  $10m$                       (D)  $11m$                       (E) NOTA
28. If Sam covers 30 percent of a cracker with dimensions of 20 ft and 30 ft with Nutella, then what is the area not covered by Nutella?
- (A)  $420ft^2$                       (B)  $480ft^2$                       (C)  $180ft^2$                       (D)  $400ft^2$                       (E) NOTA
29. If Rickards High School plans on having 32 more math competitions (excluding this one), then what year can other people expect to see no more math competitions from Rickards High School? (The competition is held once annually).
- (A) 2044                      (B) 2045                      (C) 2046                      (D) 2047                      (E) NOTA
30. What is  $1007 + 1007$ ?
- (A) 2013                      (B) 2014                      (C) 2015                      (D) 2016                      (E) NOTA