



College entrance exam and science high school entrance test tips. Conquer UPCAT, ACET, USTET, DLSUCET, PSHS-NCE, and other entrance tests.

MATHEMATICS PROFICIENCY (Basic Arithmetic and Algebra)

Directions: This subtest is a measure of ability to think out solutions to quantitative problems. Solve each problem carefully and then decide which is the best among the answer choices. Blacken the circle it corresponds to after the appropriate item number on your answer sheet.

Notes:

- ▶ Calculators of any kind are not permitted. All numbers used are real numbers.
- ▶ Figures which accompany problems in this subtest are intended to provide information useful in solving the problems. They are drawn as accurately as possible except when it is stated in a specific problem that its figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.

BEGIN HERE:

1. $[(800 \div 40) + (9^2 \div (17 - 8))] - (2^2 + 3^2) =$ _____.
a. 15 b. 16 c. 29 d. 42
2. What is sixty-seven less than the sum of fifty-eight and forty-two?
a. 33 b. - 33 c. 43 d. 23
3. What is the difference between 72, 846 divided by twice of three and seventy-five multiplied twice?
a. 11, 991 c. 24, 132
b. 6, 516 d. 18, 657
4. Which of the following numbers is the largest?
a. $(2 + 2 + 2)^2$ c. $(2 \times 2 \times 2)^2$
b. $(2^2)^2 + 2^2 + 2$ d. $[(2 + 2)^2]^2$
5. What is the value of x in order for 5719x to be divisible by 2, 3 and 6?
a. 0 b. 2 c. 6 d. 7

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6. Alin sa mga sumusunod ang mali?
- $6(8 - 8) = (5^{-1} \cdot 5) - 1$
 - $3(-3) + 3(3) = 0$
 - $3 + 3^{-1} = 0$
 - wala sa mga pagpipilian
7. Which of the following set of fractions arrange in ascending order?
- $\frac{5}{12}, \frac{1}{9}, \frac{7}{8}, \frac{11}{18}$
 - $\frac{3}{16}, \frac{1}{7}, \frac{2}{5}, \frac{5}{6}$
 - $\frac{6}{19}, \frac{7}{12}, \frac{3}{4}, \frac{4}{5}$
 - $\frac{13}{15}, \frac{1}{4}, \frac{3}{8}, \frac{5}{6}$
8. A rope is cut into three and one-third is used. Then one-fourth of the remaining rope is cut of and used. The piece left is 5 meters long. How many meters long was the rope originally?
- 6
 - 8
 - 9
 - 12
9. Rocky had a party. Midway in the party, half of the people left. A fifth of those remaining started to sing. There were 16 remaining who did not sing. How many people came to Rocky's party?
- 20
 - 30
 - 40
 - 50
10. At first stop on his route, a driver unloaded $\frac{1}{5}$ of the packages in his truck. After he unloaded another 9 packages at his next stop, $\frac{1}{2}$ of the original number of packages in the truck remained. How many packages were in the van before at the first delivery?
- 50
 - 40
 - 30
 - 20
11. $(0.143 + 0.27 + 0.852 + 0.009) - (0.235 + 0.51 + 0.006) =$ _____.
- 0.423
 - 0.751
 - 0.523
 - 0.851
12. $(87.5 \times 0.01) \div 1,000 =$ _____.
- 8.75×10^{-5}
 - 8.75×10^{-4}
 - 8.75×10^1
 - 8.75×10^3
13. What is the sum of 2.45 multiplied by 0.06 and 0.057 divided by 0.3?
- 3.37
 - 2.047
 - 1.66
 - 0.337

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14. If $k = 2 \times 10^{-2}$, then what does the expression $\frac{1}{k}$ equal to?
- a. 50 b. 500 c. 5 d. 0.5
15. The ratio of men to women at a concert was 2:3. If there were 350 people in the concert, how many women were there?
- a. 140 b. 210 c. 200 d. 150
16. A fruit salad mixture consists of apples, banana and peaches in the ratio of 6:5:4 respectively by weight. If 225 grams of mixture is prepared, how many more grams of apples than peaches?
- a. 30 b. 45 c. 60 d. 75
17. Tuwing bakasyon, ginagamit ni Leah ang 30% ng kanyang oras sa pagbabasa ng mga nobela. Sa kabuuan, kaya niyang matapos ang isang nobela ng pitong oras. Kung siya ay natutulog ng siyam na oras araw-araw, ilang nobela ang kaya niyang tapusin sa loob ng dalawang linggo?
- a. 8 b. 9 c. 5 d. 7
18. When buying an item, a man was given a 10% discount on its original price, and then he was charged a 10% tax on its selling price. Base from this transaction, which of the following is true?
- a. The original price and the selling price are the same.
b. The amount paid is 10% lower than the original price.
c. The amount paid is 99% of the original price.
d. The amount paid is 20% lower than the original price.
19. Si Gng. Gonzales ay bumili ng kotse sa halagang P pesos. Pagkalipas ng tatlong taon, ibinenta niya ang kotse ng 25% higit sa halaga ng pagkakabili niya. Binigyan siya ng babayaranang buwis na 50% ng kanyang kita. Magkano ang kailangang bayaran na buwis ni Gng. Gonzales?
- a. $\frac{P}{24}$ b. $\frac{P}{8}$ c. $\frac{P}{4}$ d. $\frac{P}{2}$
20. Of all the participants on a camping trip last summer, 70% were over 15 years old. If 63 of those who attended were 15 years old or below, what was the total number of participants in the camp?
- a. 200 b. 210 c. 120 d. 330
21. The reservoir is at full capacity at the beginning of summer. By the first day of fall, the level in the reservoir is 40% below full capacity. Then during the fall, a period of heavy rains raises the level by 40%. After the rains, the reservoir is at what percent of its full capacity?

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- a. 100% b. 90% c. 84% d. 80%
22. Lovely's grade in four of her quizzes are 83, 86, 89, and 90. There is one more quiz for the grading period and she does not want an average lower than 85, what is the lowest possible grade that she can get on her fifth quiz to maintain that average?
a. 75 b. 77 c. 79 d. 81
23. The sum of five consecutive integers is 35. How many of the five consecutive integers are prime numbers?
a. 4 b. 3 c. 2 d. 1
24. Six consecutive integers are given. The sum of the first three is 27. What is the sum of the last three?
a. 30 b. 32 c. 33 d. 36
25. For any integer n , which of the following represents the sequence of three consecutive odd integers?
a. $n, n + 1, n + 3$ c. $2n + 1, 2n + 2, 2n + 3$
b. $n, n + 2, n + 4$ d. $2n + 1, 2n + 3, 2n + 5$
26. If r, s, t are three consecutive integers such that $r > s > t$, then $(r - s)(s - t)(r - t)$ equals:
a. -2 b. -1 c. 0 d. 2
27. Kung ang x at y ay mga negatibong integers, at $x > y$, alin sa mga sumusunod ang may pinakamataas na halaga?
a. $-(xy)^2$ b. x^2y c. xy d. $y - x$
28. Kung ang x at y ay mga positibong integers at ang $x > y$, alin sa mga sumusunod ang palaging totoo?
a. $\frac{y^2}{x^2} > \frac{y}{x}$ b. $\frac{x}{y} > \frac{x^2}{y^2}$ c. $\frac{y^2}{x^2} > \frac{x^2}{y^2}$ d. $\frac{x^2}{y^2} > \frac{x}{y}$
29. If a and b are both odd numbers, then which of the following must be an even number?
a. $ab + 2$ b. $2a + b$ c. $a + b$ d. $a + b + 1$
30. Simplify the expression: $5y - \{3y + (2y - 5) - [3 - (2 + 4y)]\}$
a. $4y$ b. $6 - 4y$ c. $14y - 6$ d. $4y + 6$

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