

**Directions:** Read the following questions carefully. In each question, you will be asked to compute the given values using basic mathematical operations. Select the letter of the correct answer.

1. How many  $\frac{3}{4}$ s are there in  $\frac{15}{9}$ ?

- (A)  $\frac{20}{9}$
- (B)  $\frac{17}{2}$
- (C)  $\frac{31}{9}$
- (D)  $\frac{17}{4}$

2. There are two photocopying machines in a company: Machine A and Machine B. Thirty percent (30%) of employees prefer Machine A to Machine B. There are 500 employees in the company. How many employees prefer Machine B to Machine A?

- (A) 175
- (B) 280
- (C) 350
- (D) 440

3. Simplify:  $5^2 + (3^3 + (-3)) \div (-2^3)$

- (A) -21
- (B) 22
- (C) 21
- (D) 20

4. What is the difference between the values of underlined digits of  $\underline{5} \underline{40} \underline{2} 819$ ?

- (A) 4 980 000
- (B) 4 800 000
- (C) 4 999 800
- (D) 4 998 000

5. Which of the following is NOT a possible value of A if 7589A6 is divisible by 4?

- (A) 9
- (B) 5
- (C) 3

(D) 2

6. Which of the following is NOT equal to  $a^2 + b^2 - 2ab$ ?

(A)  $(a - b)(a - b)$

(B)  $a(a - 2b) + b^2$

(C)  $(a + b)^2 - 4ab$

(D)  $(a + b)(a - b) - 2ab$

7. Which of the following is equal to 5400?

(A)  $2^3 \times 3^4 \times 5^2$

(B)  $2^2 \times 3^5 \times 5$

(C)  $2^3 \times 3^3 \times 5^2$

(D)  $2^4 \times 3 \times 5^3$

8. The sum of two numbers is 180. The numbers are in a ratio of 1 : 5. What is the larger number?

(A) 90

(B) 120

(C) 150

(D) 180

9. What must be  $x$  so that  $\frac{x+3}{2} + \frac{2x-1}{3} = 5$ ?

(A)  $\frac{23}{7}$

(B)  $\frac{17}{4}$

(C)  $\frac{43}{17}$

(D) -2

10. What is the median of 29, 43, 13, 2, 52, 19, 10, 38?

(A) 24

(B) 19

(C) 40

(D) 20

11. The cost per square meter of floor tiles is Php 420.00. Harry plans to tile the floor of his room which is 2.5 m long and 3.5 m wide. How much will Harry pay for the tiles?

- (A) Php 2550
- (B) Php 3675
- (C) Php 4575
- (D) Php 5215

12. What is the sum of  $5 + 10 + 15 + 20 + \dots + 495 + 500$ ?

- (A) 15150
- (B) 25250
- (C) 35350
- (D) 45450

13. Compute:  $\frac{1}{3} \left( \frac{4}{5} + \frac{2}{3} \right) \div \frac{1}{2} \left( \frac{3}{2} + \frac{1}{3} \right)$

- (A)  $\frac{8}{15}$
- (B)  $\frac{6}{13}$
- (C)  $\frac{2}{15}$
- (D)  $\frac{7}{15}$

14. 45 students took an exam in Mathematics. 25 students obtained an average score of 89 while 20 students obtained an average score of 87. Determine the average score for all 45 students who took the Mathematics Exam.

- (A) 86.33
- (B) 87.55
- (C) 88.11
- (D) 89.22

15. Find the value of  $\frac{2m^2 + 7m + 6}{m^2 - 4}$  if  $m = -1$

- (A) 3
- (B) -3
- (C)  $\frac{1}{3}$
- (D)  $-\frac{1}{3}$

16. Suppose that 1260 is written as  $a^p \times b^q \times c^r \times d^s$  such that  $a, b, c,$  and  $d$  are prime numbers. Determine the value of  $p + q + r + s$ .
- (A) 5  
(B) 6  
(C) 7  
(D) 8
17. Solve for the value of  $m$  in  $4 : 5 = 36 : m$
- (A) 45  
(B) 54  
(C) 81  
(D) 27
18. If  $x = 6 - y$  and  $x = \frac{2}{y}$ , what is the value of  $(x - y)^2$ ?
- (A) 28  
(B) 35  
(C) 44  
(D) 56
19. Every month, a company's revenue increases by 10%. In January, the company's revenue was reported to be at Php 30 000. What might be the revenue of the company in March?
- (A) Php 32 800  
(B) Php 34 300  
(C) Php 36 300  
(D) Php 38 800
20. The sum of 5 consecutive odd integers is equal to -56 plus the largest of the odd integers. What is the smallest odd integer?
- (A) -17  
(B) -15  
(C) -21  
(D) -25