

ALGEBRA I INDIVIDUAL TEST – WANDO MATH TOURNAMENT

Note – NOTA (choice E) means none of the answers are correct

1) Solve for t:  $P = \frac{at}{x} + y$

A)  $t = \frac{Px - y}{a}$       B)  $t = \frac{P}{xa} - \frac{P}{y}$       C)  $t = Px - \frac{y}{a}$       D)  $t = \frac{Px}{a} - \frac{yx}{a}$       E)

NOTA

2) Solve:  $0.\bar{1} \times 0.9 \div 0.\bar{3}$

A) 0.3      B)  $\frac{1}{27}$       C)  $\frac{3}{19}$       D)  $0.19\bar{3}$       E) NOTA

3) Add the slope and the y-intercept of the following line:  $3x - 4y = 13$

A)  $\frac{-5}{2}$       B)  $\frac{10}{13}$       C)  $\frac{-10}{13}$       D)  $\frac{-3}{4}$       E) NOTA

4) Find the slope of the line determined by the points (3,5.5) and (-2,3)

A)  $\frac{-5}{2}$       B)  $\frac{1}{2}$       C)  $\frac{-3}{5}$       D)  $\frac{2}{3}$       E) NOTA

5) Simplify:  $\frac{1 + 5(7) - 6 + 3(3)^0}{(39 \div 13)^2 + 2(-1)^{10}}$

A)  $\frac{3}{8}$       B)  $\frac{1}{2}$       C) 3      D) 5      E) NOTA

6) Simplify:  $\frac{3x^2 - 6x}{x - 2}$

A)  $x - 2$       B) 3      C) 3x      D)  $\frac{3x - 6}{-2}$       E) NOTA

7) If  $f(x) = 2x^2 - 1$  and  $g(x) = 3x - 2$ , find  $f(g(4))$

A) 79      B) 231      C) 38      D) 199      E) NOTA

ALGEBRA I INDIVIDUAL TEST – WANDO MATH TOURNAMENT

Note – NOTA (choice E) means none of the answers are correct

8) Which of the following equations contains the point (-2,-3)?

- A)  $2x + 3y = -5$       B)  $3x - 2y = 2$       C)  $-3x - 4y = 18$       D)  $4x - 3y = -1$       E) NOTA

9) Simplify  $\frac{2x}{3} + \frac{3x}{4} - \frac{4x}{5}$

- A)  $\frac{2x}{3 \cdot 4 \cdot 5}$       B)  $\frac{x}{30}$       C)  $\frac{37x}{60}$       D)  $\frac{11x}{60}$       E) NOTA

10) Given the sets  $A = \{1, 2, 3, 4, 5\}$ ,  $B = \{2, 4, 6, 8\}$ , and  $C = \{3, 5, 7, 9\}$ , find the sum of  $A \cap (B \cup C)$

- A) 14      B) 21      C) 29      D) 35      E) NOTA

11) If  $\sqrt{x} = 3$ , then  $\frac{\frac{5}{x}}{\frac{x}{5}} =$

- A)  $\frac{25}{9}$       B)  $\frac{25}{3}$       C)  $\frac{25}{81}$       D)  $\frac{5}{9}$       E) NOTA

12) What is  $\frac{1}{2}$  the perimeter of a square when  $\frac{3}{8}$  of its area is 24?

- A) 6      B) 16      C) 32      D) 128      E) NOTA

13) Solve for x:  $\frac{3}{11}x - 1 = \frac{7}{11}x + 9$

- A)  $\frac{-55}{2}$       B)  $\frac{10}{11}$       C)  $\frac{-2}{5}$       D) 3      E) NOTA

14) Solve for x:  $4 + 2(x - 1) = 6x - 3(2x + 1)$

- A) -3      B) -2      C)  $\frac{-5}{2}$       D) no solution      E) NOTA

ALGEBRA I INDIVIDUAL TEST – WANDO MATH TOURNAMENT

Note – NOTA (choice E) means none of the answers are correct

15) Simplify:  $\frac{15x^8y^4z^2}{40x^5y^4z^5}$

- A)  $\frac{3x^3y}{8z^3}$       B)  $\frac{x^3y}{z^3}$       C)  $\frac{3x^3}{8z^3}$       D)  $\frac{x^3}{z^3}$       E) NOTA

16) A certain number when added to four times itself gives a sum of  $\frac{12}{27}$ . What is the reciprocal of the number?

- A)  $\frac{12}{35}$       B)  $\frac{12}{7}$       C)  $\frac{12}{5}$       D)  $\frac{35}{12}$       E) NOTA

17) Where does the graph of  $y = 6x^2 - x - 7$  intersect the x-axis?

- A)  $1\frac{1}{6}, -1$       B)  $2\frac{1}{3}, \frac{-1}{2}$       C)  $3\frac{1}{2}, \frac{-1}{3}$       D)  $7, \frac{-1}{6}$       E) NOTA

18) Find the sum of all integer solutions of the inequality  $|6 - 2x| < 9$

- A) 0      B) 27      C) 33      D) 40      E) NOTA

19) Evaluate  $(-5)^{2^{308}}$

- A) -125      B) 25      C) 11540      D) 390,625      E) NOTA

20) Find the equation of the line perpendicular to the line  $3x + 2y = 9$  and passing through the point (6,1)

- A)  $y = \frac{2}{3}x + \frac{16}{3}$       B)  $y = \frac{-3}{2}x + 10$       C)  $2x + 3y = 9$       D)  $3x + 2y = \frac{15}{2}$       E) NOTA

ALGEBRA I INDIVIDUAL TEST – WANDO MATH TOURNAMENT

Note – NOTA (choice E) means none of the answers are correct

21) When the repeating decimal  $0.24\overline{6}$  is written in simplest fractional form, what is the sum of the numerator and the denominator?

- A) 68                      B) 187                      C) 561                      D) 617                      E) NOTA

22) From the following system determine  $\frac{a}{b}$ : 
$$\begin{aligned} 5a - 2b &= -24 \\ a + 4b &= 15 \end{aligned}$$

- A)  $\frac{-2}{3}$                       B)  $\frac{-3}{2}$                       C)  $\frac{3}{2}$                       D)  $\frac{27}{2}$                       E) NOTA

23) Joe has \$21.84 in pennies, nickels, dimes, quarters, and half-dollars. If he has an equal number of each coin, how many total coins does he have?

- A) 24                      B) 96                      C) 100                      D) 120                      E) NOTA

24) If  $3^{1.5} \approx 5$ , then what is the approximate value of  $3^6$ ?

- A) 20                      B) 25                      C) 400                      D) 625                      E) NOTA

25) By definition  $5! = 5 \times 4 \times 3 \times 2 \times 1$ . If  $x - y = 2$  and  $x + 3y = 18$ , find  $\frac{x!}{y!}$

- A) 12                      B) 20                      C) 30                      D) 42                      E) NOTA