ALGEBRA 2 PRACTICE TEST 2

Name_____ **Date**_____

Directions: Complete as many problems as you can in the 30 minutes allotted to you. No calculators!

1. Which is the largest number?

(A) $-37\frac{2}{3}$ **(B)** -37.6 **(C)** -37.12 **(D)** $-37\frac{17}{24}$ **(E)** $-37\frac{33}{48}$

2. $16.7\overline{45}$ is an element of what set(s) of numbers?

I. Irrational II. Rational III. Real

(A) I **(B)** II **(C)** III **(D)** I and III **(E)** II and III

3. Simplify $\left(a^{y+4}\right)^2$

(A) a^{2y+8} **(B)** $a^{y^2+8y+16}$ **(C)** a^{y^2+16} **(D)** a^{y^2+8} **(E)** a^{y+6}

4. Which point does not satisfy the linear equation $y=-\frac{2}{3}x+3$?

(A) $(-6,7)$ **(B)** $(0,3)$ **(C)** $(12,-5)$ **(D)** $(-9,-6)$ **(E)** $(3,1)$

5. Evaluate $g-h(-g-h)$ if $g=-5$ and $h=-2$.

(A) -49 **(B)** -21 **(C)** -19 **(D)** 1 **(E)** 9

6. In *k* more years, Sue will be *h* years old. How old was Sue *j* years ago?

(A) $h-k-j$ **(B)** $k-h-j$ **(C)** $h+k-j$ **(D)** $h-k+j$ **(E)** $h-k$

7. If $x^{\frac{3}{4}}y^{\frac{2}{3}}=16$, find the value of $\frac{1}{x^{\frac{3}{4}}}$ when $y^{\frac{2}{3}}$ equals 2.

(A) $\frac{1}{14}$ **(B)** $\frac{1}{8}$ **(C)** 8 **(D)** 14 **(E)** 32

8. $4a^2-\frac{3}{a}$ is equivalent to which of the following?

(A) a **(B)** a^2 **(C)** $3\frac{2}{3}a$ **(D)** $4a-3$ **(E)** $\frac{4a^3-3}{a}$

9. Given $\frac{40\%}{x}+\frac{40\%}{x}=80$. Find *x*.

(A) 0.0025 **(B)** 0.005 **(C)** 0.01 **(D)** 0.1 **(E)** 1

10. If $m=-3k^4-2k^3+4k^2+1$ and $n=6k^4-8k^3-10k^2-5$, find the value of $m-n$.

(A) $-9k^4+6k^3-6k^2+6$ **(B)** $-9k^4-10k^3-6k^2-4$ **(C)** $-9k^4-10k^3+14k^2+6$

(D) $-9k^4+6k^3+14k^2+6$ **(E)** $-9k^4+6k^3+14k^2-4$

11. If $\left[(x-y)^{0.25}\right]^4-7=-28.12$, find the value of $3+\left[(x-y)^{0.25}\right]^4$.

(A) -38.12 **(B)** -32.12 **(C)** -24.12 **(D)** -21.12 **(E)** -18.12

12. Find the value of $\left(\sqrt[3]{-x^2-4x}\right)^3$ if $2-x=4$.

(A) 0 **(B)** 1 **(C)** 4 **(D)** 10 **(E)** 12

13. Solve $\frac{u_1w_1}{v_1}=\frac{u_2w_2}{v_2}$ for v_2.

(A) $\frac{u_2v_1w_2}{u_1w_1}$ **(B)** $\frac{u_1w_1}{u_2v_1w_2}$ **(C)** $\frac{u_1v_1w_1}{u_2w_2}$ **(D)** $\frac{u_2w_2}{u_1v_1w_1}$ **(E)** $\frac{u_1v_1u_2}{w_1w_2}$

14. If $v=-0.5$, then which of the following is true?

(A) $\frac{1}{v^8}<\frac{1}{v^9}<\frac{1}{v^{10}}$ **(B)** $\frac{1}{v^{10}}<\frac{1}{v^9}<\frac{1}{v^8}$ **(C)** $\frac{1}{v^{10}}<\frac{1}{v^8}<\frac{1}{v^9}$ **(D)** $\frac{1}{v^9}<\frac{1}{v^8}<\frac{1}{v^{10}}$ **(E)** $\frac{1}{v^9}<\frac{1}{v^{10}}<\frac{1}{v^8}$

15. If $\frac{12}{4x^2-9}=6$, then $\frac{(2x-3)(2x+3)}{12}+7=$

(A) $1\frac{1}{6}$ **(B)** $7\frac{1}{6}$ **(C)** 9 **(D)** 11 **(E)** 13

16. If $(a^2+c^2)+d=e+f$, then $\frac{(a^2+c^2)^2}{5}=$

(A) $\frac{(e+f-d)^2}{5}$ **(B)** $\frac{(e+f-d)^2}{25}$ **(C)** $\frac{(e+f+d)^2}{5}$ **(D)** $\frac{(e+f)^2}{5d}$ **(E)** $\frac{(e+f)^2}{25d^2}$

17. Given $\frac{-1}{x-3}=\frac{1}{y+2}$, what is the value of $x-1$?

(A) $-y+4$ **(B)** $y+4$ **(C)** $y-1$ **(D)** $-y$ **(E)** y

18. If $16-8\sqrt[3]{\frac{g+h}{j+k}}=4\sqrt[3]{\frac{g+h}{j+k}}-8$, then $\sqrt[3]{\frac{g+h}{j+k}}-6=$

(A) $-5\frac{1}{3}$ **(B)** -4 **(C)** 0 **(D)** 2 **(E)** 6

19. Find the value of x if $\frac{\left(\frac{x^2-x-6}{x-3}\right)^4}{\left(\frac{x^2-3x-10}{x-5}\right)^3}=6$ where $x\neq -2,3,5$.

(A) -3 **(B)** 1 **(C)** 0 **(D)** 4 **(E)** 5

20. What fraction of $4x^6$ is $2x^2$?

(A) $\frac{2}{x^{-4}}$ **(B)** $\frac{2}{x^4}$ **(C)** $\frac{1}{2x^4}$ **(D)** $\frac{1}{2x^{-4}}$ **(E)** $2x^4$

21. Solve $2x=\frac{5+6x}{3}$ for x.

(A) -5 **(B)** 0 **(C)** 1 **(D)** 5 **(E)** does not exist

22. If $x=\frac{m^{-4}b^5}{c^{-2}}$ and $c=\frac{m^{-2}}{b^4}$, then $x=$

(A) $m^{-8}b^{-3}$ **(B)** b^{-3} **(C)** $m^{-8}b^{13}$ **(D)** b^{13} **(E)** $m^{-8}b^{-11}$

23. Given $6+2-d+b=2$ and $8+d+2=5-g$, find the value of $\frac{(g+b)^2}{2}$.

(A) 12.5 **(B)** 18 **(C)** 32 **(D)** 50 **(E)** 60.5

24. If the mixed fraction $a\frac{b}{c}$ is greater than the mixed fraction $x\frac{y}{c}$, find the value of $a\frac{b}{c}-x\frac{y}{c}$.

(A) $\frac{acb-xcy}{c}$ **(B)** $\frac{xc+y-ac+b}{c}$ **(C)** $\frac{xc+y-ac-b}{c}$ **(D)** $\frac{ac+b-xc+y}{c}$ **(E)** $\frac{ac+b-xc-y}{c}$

25. If golf balls cost y dollars each, how many can you buy if you have x cents?

(A) $\frac{100x}{y}$ **(B)** $\frac{x}{y}$ **(C)** $\frac{y}{x}$ **(D)** $\frac{y}{100x}$ **(E)** $\frac{x}{100y}$

ALGEBRA 2 TEST 2 ANSWERS

1. C	2. E	3. A	4. D	5. E
6. A	7. B	8. E	9. C	10. D
11. E	12. C	13. A	14. D	15. B
16. A	17. D	18. B	19. D	20. C
21. E	22. A	23. E	24. E	25. E